Supreme Court, U.S.
FILED

06-797 DEC 8 - 2006

No. OFFICE OF THE CLERK

In the Supreme Court of the United States

UNITED STATES FOREST SERVICE, ET AL.,
PETITIONERS

v.

EARTH ISLAND INSTITUTE, ET AL.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

PETITION FOR A WRIT OF CERTIORARI

PAUL D. CLEMENT
Solicitor General
Counsel of Record
SUE ELLEN WOOLDRIDGE
Assistant Attorney General
EDWIN S. KNEEDLER
Deputy Solicitor General
JONATHAN L. MARCUS
Assistant to the Solicitor General
RONALD M. SPRITZER
Attorney
Department of Justice
Washington, D.C. 20530-0001
(202) 514-2217

QUESTION PRESENTED

In this action under the Administrative Procedure Act, respondents challenge two projects adopted by the Forest Service to restore portions of the Eldorado National Forest that were severely damaged by fire. The court of appeals ordered entry of a preliminary injunction barring the Forest Service from proceeding with those projects.

The question presented is whether the court of appeals erred in ordering a preliminary injunction, including by:

a. Relying on declarations filed by respondents in the district court, rather than confining its review to the administrative record, in determining that respondents had shown a likelihood of success on the merits;

b. Holding that respondents could satisfy the "irreparable injury" prong of the test for obtaining a preliminary injunction by showing only a "possibility" of such injury; and

c. Discounting competing interests in the use of Forest lands under multiple use principles, and the Forest Service's balance of those competing uses, in weighing the balance of harms and the public interest.

PARTIES TO THE PROCEEDINGS

Petitioners are: Dale Bosworth, Chief of the United States Forest Service; Ramiro Villalvazo, Forest Supervisor for the Eldorado National Forest; and the United States Forest Service, an agency of the United States Department of Agriculture.

Respondents who were Plaintiffs-Appellants below are: Earth Island Institute, a California non-profit organization; and the Center for Biological Diversity, a non-profit organization.

Respondent who was the Defendant-Intervenor-Appellee below is: Sierra Pacific Industries, Inc (SPI).

TABLE OF CONTENTS

Page

Opinions below 1
Jurisdiction 1
Statutory provisions involved 2
Statement 2
A. The statutory framework 3
B. The facts and proceedings below 5
Reasons for granting the petition 13
I. The Ninth Circuit erred with respect to each of the four factors to be considered in ruling on a motion for a preliminary injunction 14
A. Likelihood of success on the merits 14
B. Irreparable injury 19
C. Balance of harms and the public interest 26
II. Review by this Court is warranted 29
Conclusion 30

TABLE OF AUTHORITIES

Cases:

Able v. *United States*, 44 F.3d 128 (2d Cir. 1995) 23
Adams v. *Freedom Forge Corp.*, 204 F.3d 475 (3d Cir. 2000) 22
AlliedSignal, Inc. v. *B.F. Goodrich Co.*, 183 F.3d 568 (7th Cir. 1999) 22
American Biosci., Inc. v. *Thompson*, 243 F.3d 579 (D.C. Cir. 2001) 15
American Coke & Coal Chems. Inst. v. *EPA*, 452 F.3d 930 (D.C. Cir. 2006) 17
Amoco Prod. Co. v. *Village of Gambell*, 480 U.S. 531 (1987) 21, 26

Cases—Continued: Page

Ashcroft v. *ACLU*, 542 U.S. 656 (2004) 20
Associated Gen. Contractors of Cal., Inc. v. *Coalition for Econ. Equity*, 950 F.2d 1401 (9th Cir. 1991), cert. denied, 503 U.S. 985 (1992) 20
Association of Pac. Fisheries v. *EPA*, 615 F.2d 794 (9th Cir. 1980) 17
Baltimore Gas & Elec. Co. v. *NRDC*, 462 U.S. 87 (1983) 4
Beacon Theaters, Inc. v. *Westover*, 359 U.S. 500 (1959) 20
Beltran v. *Smith*, 458 U.S. 1303 (1982) 21
Big Country Foods, Inc. v. *Board of Educ.*, 868 F.2d 1085 (9th Cir. 1989) 20
Blackwelder Furniture Co. v. *Seilig Mfg. Co.*, 550 F.2d 189 (4th Cir. 1977) 22
Borey v. *National Union Fire Ins. Co.*, 934 F.2d 30 (2d Cir. 1991) 22
Brown v. *Chote*, 411 U.S. 452 (1973) 28
Camp v. *Pitts*, 411 U.S. 138 (1973) 15, 16
Caribbean Marine Servs. Co. v. *Baldrige*, 844 F.2d 668 (9th Cir. 1988) 24
Center for Biological Diversity v. *United States Fish & Wildlife Serv.*, 450 F.3d 930 (9th Cir. 2006) 17
Citizens to Preserve Overton Park, Inc. v. *Volpe*, 401 U.S. 402 (1971) 15, 16, 17
Clear Channel Outdoor Inc. v. *City of Los Angeles*, 340 F.3d 810 (9th Cir. 2003) 19
Commercial Drapery Contractors, Inc. v. *United States*, 133 F.3d 1 (D.C. Cir. 1989) 17

Cases—Continued: Page

Custer County Action Ass'n v. *Garvey*, 256 F.3d 1024 (10th Cir. 2001) 18
DOT v. *Public Citizen*, 541 U.S. 752 (2004) 15, 18
Doran v. *Salem Inn, Inc.*, 422 U.S. 922 (1975) ... 20, 22, 28
Earth Island Inst. v. *United States Forest Serv.*, 351 F.3d 1291 (9th Cir. 2003) 20
eBay Inc. v. *MercExch., L.L.C.*, 126 S. Ct. 1837 (2006) 21, 28
Florida Power & Light Co. v. *Lorion*, 470 U.S. 729 (1985) 15
Forest City Daly Housing, Inc. v. *Town of N. Hempstead*, 175 F.3d 144 (2d Cir. 1999) 23
FPC v. *Transcontinental Gas Pipe Line Corp.*, 423 U.S. 326 (1976) 14
Friends of the Earth v. *Laidlaw*, 528 U.S. 167 (2000) 23, 24
Fund for Animals v. *Frizzell*, 530 F.2d 982 (D.C. Cir. 1975) 25
Globe Nuclear Servs. & Supply GNSS, Ltd. v. *AO Techsnabexport*, 376 F.3d 282 (4th Cir. 2004) 22
Greater Yellowstone Coal. v. *Flowers*, 321 F.3d 1250 (10th Cir. 2003) 22, 23
Grupo Mexicano de Desarrollo S.A. v. *Alliance Bond Fund, Inc.*, 527 U.S. 308 (1999) 20
Idaho Sporting Cong. v. *Alexander*, 222 F.3d 562 (9th Cir. 2000) 20
INS v. *Elias-Zacarias*, 502 U.S. 478 (1992) 4, 15

Cases—Continued: Page

Kootenai Tribe v. *Veneman*, 313 F.3d 1094 (9th Cir. 2002) 20
Los Angeles Mem'l Coliseum Comm'n v. *NFL*, 634 F.2d 1197 (9th Cir. 1980) 19
Lujan v. *Defenders of Wildlife*, 504 U.S. 555 (1992) 24
Marsh v. *Oregon Natural Res. Council*, 490 U.S. 360 (1989) 3
Matos ex rel. Matos v. *Clinton Sch. Dist.*, 367 F.3d 68 (1st Cir. 2004) 22
Mazurek v. *Armstrong*, 520 U.S. 968 (1997) 20
Motor Vehicle Mfrs. Ass'n v. *State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29 (1983) 14
National Audubon Soc'y v. *Hoffman*, 132 F.3d 7 (2d Cir. 1997) 18
Newton County Wildlife Ass'n v. *Rogers*, 141 F.3d 803 (8th Cir. 1998) 17
NLRB v. *Columbian Enameting & Stamping Co.*, 306 U.S. 292 (1939) 4
Norton v. *Southern Utah Wilderness Alliance*, 542 U.S. 55 (2004) 18, 26
NVE, Inc. v. *Department of Health & Human Servs.*, 436 F.3d 182 (3d Cir. 2006) 17
Oakland Tribune, Inc. v. *Chronicle Publ'g Co.*, 762 F.2d 1374 (9th Cir. 1985) 8, 20
Ohio Forestry Ass'n v. *Sierra Club*, 523 U.S. 726 (1998) 3, 4
Rum Creek Coal Sales, Inc. v. *Caperton*, 926 F.2d 353 (4th Cir. 1991) 22, 23

Cases—Continued: Page

Rushia v. *Town of Ashburnham*, 701 F.2d 7 (1st Cir. 1983) 22
Sammartano v. *First Judicial Dist. Court*, 303 F.3d 959 (9th Cir. 2002) 20
Sampson v. *Murray*, 415 U.S. 61 (1974) 20
Siegel v. *LePore*, 234 F.3d 1163 (11th Cir. 2000) 22
Sierra Club v. *Morton*, 405 U.S. 727 (1972) 24
Simula, Inc. v. *Autoliv, Inc.*, 175 F.3d 716 (9th Cir. 1999) 20
Southwest Ctr. for Biological Diversity v. *USFS*, 100 F.3d 1443 (9th Cir. 1996) 11, 15, 17
Stuhlbarg Int'l Sales Co. v. *John D. Brush & Co.*, 240 F.3d 832 (9th Cir. 2001) 8
United States v. *Morgan*, 313 U.S. 409 (1941) 15
Vermont Yankee Nuclear Power Corp. v. *NRDC*, 435 U.S. 519 (1978) 3, 15
Village of Gambell v. *Hodel*, 774 F.2d 1414 (9th Cir. 1985) 21
Virginia Petroleum Jobbers Ass'n v. *FPC*, 259 F.2d 921 (1958) 20
Virginia Ry. Co. v. *System Fed'n No. 40*, 300 U.S. 515 (1937) 26
Voyageurs Nat'l Park Ass'n v. *Norton*, 381 F.3d 759 (8th Cir. 2004) 17
Weinberger v. *Romero-Barcelo*, 456 U.S. 305 (1982) 20

Constitution, statutes and regulation:

U.S. Const. Art. III 24

Statutes and regulation—Continued: Page

Administrative Procedure Act, 5 U.S.C. 501 *et seq.* 2
5 U.S.C. 706 2
5 U.S.C. 706(2)(A) 4
Endangered Species Act of 1973, 16 U.S.C. 531 *et seq.* .. 24
16 U.S.C. 1533(b)(3)(A) 25
National Environmental Policy Act of 1969, 42 U.S.C. 4321 *et seq.* 3
42 U.S.C. 4332(2)(C) (§ 102(2)(c)) 3
National Forest Management Act of 1976, 16 U.S.C. 1600 *et seq.* 3
16 U.S.C. 1601(d)(1) 28
16 U.S.C. 1604(a) 4
16 U.S.C. 1604(e) 4
16 U.S.C. 1604(g)(1)-(3) 4
16 U.S.C. 1604(g)(3)(B) 28
16 U.S.C. 1604(k) 28
16 U.S.C. 1606a 27
16 U.S.C. 1611(b) 28
16 U.S.C. 475 28
16 U.S.C. 528-531 4
16 U.S.C. 551 28
36 C.F.R. 219.1 4

Miscellaneous:

70 Fed. Reg. 35,607 (June 21, 2005) 25
71 Fed. Reg. 29,886 (May 24, 2006) 25

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PETITION FOR A WRIT OF CERTIORARI

The Solicitor General, on behalf of the United States Forest Service and the other federal parties, respectfully petitions for a writ of certiorari to review the judgment of the United States Court of Appeals for the Ninth Circuit in this case.

OPINIONS BELOW

The opinion of the court of appeals (App. 1a-58a) is reported at 442 F.3d 1147. The opinion of the district court (App. 63a-78a) is unreported.

JURISDICTION

The judgment of the court of appeals was entered on March 24, 2006. A petition for rehearing was denied on July 12, 2006 (App. 146a-147a). On September 30, 2006, Justice Kennedy extended the time within which to file a petition for a writ of certiorari to and including November 9, 2006. On October 31, 2006, Justice Kennedy further extended the time

to December 8, 2006. The jurisdiction of this Court is invoked under 28 U.S.C. 1254(1).

STATUTORY PROVISION INVOLVED

Section 706 of the Administrative Procedure Act (APA) provides, in relevant part:

> To the extent necessary to decision and when presented, the reviewing court shall decide all relevant questions of law[.] * * * The reviewing court shall—
>
> * * * * *
>
> (2) hold unlawful and set aside agency action, findings, and conclusions found to be—
>
> (A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law[.]
>
> * * * * *
>
> In making the foregoing determinations, the court shall review the whole record or those parts of it cited by a party[.]

5 U.S.C. 706.

STATEMENT

In this action under the Administrative Procedure Act (APA), 5 U.S.C. 501 *et seq.*, the Ninth Circuit ordered the district court to enter a preliminary injunction barring the United States Forest Service (Forest Service) from further implementation of two projects in the Eldorado National Forest in California. Those projects were adopted by the Forest Service to address deteriorating conditions in the aftermath of serious fires in the Forest and to restore the burned areas. The court of appeals erred with respect to all four of the factors bearing on the propriety of a preliminary injunction. Of particular concern, it applied a watered-down standard of

irreparable injury—allowing the mere "possibility" of irreparable injury to suffice—and erred in evaluating the likelihood of success on the merits on the basis of declarations filed in court rather than the administrative record. The Court should grant review in this case to restore the proper framework for evaluating applications for preliminary injunctions in cases under the APA.

A. The Statutory Framework

The two forest projects respondents challenge in this case are subject to the requirements of the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. 4321 *et seq.*, and the National Forest Management Act of 1976 (NFMA), 16 U.S.C. 1600 *et seq.*

1. *NEPA.* NEPA mandates the procedure by which agencies must consider the environmental impacts of their actions, but it does not dictate substantive results. *Marsh* v. *Oregon Natural Res. Council*, 490 U.S. 360, 371 (1989). Section 102(2)(C) of NEPA requires federal agencies to:

> include in every recommendation or report on * * * major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on—
>
> (i) the environmental impact of the proposed action.

42 U.S.C. 4332(2)(c)(i). NEPA is designed to "insure a fully informed and well-considered decision, not necessarily a decision the judges of the Court of Appeals or of this Court would have reached had they been members of the decisionmaking unit of the agency." *Vermont Yankee Nuclear Power Corp.* v. *NRDC*, 435 U.S. 519, 558 (1978).

2. *NFMA.* NFMA governs the Forest Service's management of the National Forest System. See generally *Ohio Forestry Ass'n* v. *Sierra Club*, 523 U.S. 726, 728 (1998). NFMA directs the Forest Service to develop a land and resource

management plan (forest plan) for each unit of the System to provide for multiple uses and sustained yield of the various forest resources, including timber and wildlife. See 16 U.S.C. 1604(a) and (e); see also 16 U.S.C. 528-531 (requiring Forest Service to administer renewable resources of National Forests for multiple use and sustained yield). A forest plan is a broad, long-term programmatic planning document that establishes goals and objectives for units of the National Forest System, ensuring consideration of economic as well as environmental factors. 16 U.S.C. 1604(g)(1)-(3); 36 C.F.R. 219.1; see *Ohio Forestry*, 523 U.S. at 729-730. Where the forest plan also establishes specific limitations or rules for site-specific projects, an individual proposed project may proceed only if it is consistent with such provisions. See 16 U.S.C. 1604(i); *Ohio Forestry*, 523 U.S. at 730.

3. *APA*. Judicial review of a Forest Service decision approving a project is governed by the APA, under which review is limited to the administrative record and a court may set aside final agency action if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. 706(2)(A). A reviewing court's inquiry is limited to whether the agency "considered the relevant factors and articulated a rational connection between the facts found and the choice made." *Baltimore Gas & Elec. Co.* v. *NRDC*, 462 U.S. 87, 105 (1983). Factual determinations may be reviewed only to determine whether they are supported by substantial evidence. Such a determination by the agency must be upheld unless no reasonable fact-finder could have reached that conclusion based on the evidence in the administrative record, and the evidence is sufficient to sustain the agency's decision if, in a case to be tried to a jury, it would be sufficient to allow the court to refuse to direct a verdict. *INS* v. *Elias-Zacarias*, 502 U.S. 478, 481 (1992); *NLRB* v. *Columbian Enameling & Stamping Co.*, 306 U.S. 292, 300 (1939).

B. The Facts And Proceedings Below

1. In October 2004, a fire known as the Power Fire consumed more than 14,000 acres of the Eldorado National Forest. Approximately 48% of that area burned with high intensity, killing between 75 and 100 percent of the trees and incinerating duff and natural litter protecting the soils. App. 64a. Less than ten days later, another fire, known as the Freds Fire, burned 4600 acres in the Forest, 2600 of which burned with high intensity. *Ibid.*

The Forest Service designed a project for each of the burned areas "to restore portions of the fire-ravaged landscape." App. 65a. The Forest Service identified four goals in that regard: (1) to reduce long-term fuel loading (the presence of combustible material) in order to reduce future fire severity and resistance to control; (2) to improve road drainage and establish effective ground cover in severely burned areas to alleviate erosion and sedimentation to streams; (3) to remove certain dead trees while they retain economic value; and (4) to reduce safety hazards to the public and forest workers from trees falling in the future. *Ibid.*; see *id.* at 81a-84a, 115a-120a (Forest Service Records of Decision).

The Forest Service issued Final Environmental Impact Statements (FEISs) for each of the projects on July 1, 2005. App. 65a. The Forest Service issued its Records of Decision (RODs) for the projects on August 1, 2005. The Power project permitted timber harvesting on 5574 acres in the area burned in the Power Fire, and contemplated harvesting of an additional 2600 acres depending on ultimate tree mortality. The Freds project allowed timber cutting on 2900 acres in the area burned by the Freds Fire. *Id.* at 65a-66a.

The projects included mitigation measures designed to minimize environmental effects. App. 65a. For example, the projects provided for "snag (dead tree) retention areas of various sizes, create[d] no harvest zones along perrenial streams, and call[ed] for the preservation of additional dead

trees in other harvest areas of various dimensions and configurations in order to accommodate wildlife dependent on such habitat." *Ibid.* In addition, "[t]ree harvest would be accomplished using skyline and helicopter methods on steeper slopes to minimize soil impacts, and slash (debris) from harvesting operations would be treated, so as to ensure acceptable fuel loading levels while, at the same time, creating ground cover as needed to reduce erosion." *Ibid.*

Because the timber to be harvested was deteriorating and its value declining rapidly, the Forest Service also issued emergency situation determinations, which allowed the projects to be implemented immediately without administrative appeals. App. 66a.

2. a. Respondents Earth Island Institute and the Center for Biological Diversity filed this action under the APA on August 11, 2005, challenging the Power and Freds projects on several grounds. In their Amended Complaint (Compl.), Earth Island Institute asserted a general interest in protecting "all federal public forest lands from commercial exploitation," and that it is "a membership organization with over 15,000 members in the U.S., over 3,000 of whom use and enjoy the National Forests of California for recreational, educational, aesthetic, spiritual and other purposes." Compl. para. 8. Earth Island alleged that it had recently appealed numerous timber sales in the Pacific Northwest and Sierra Nevada, and that it and its members participated in governmental decisionmaking processes concerning National Forests. *Ibid.* The Center for Biological Diversity alleged that it is concerned with "the preservation, protection, and restoration of biological diversity, native species and ecosystems in the Western United States and elsewhere." *Id.* para. 9. The complaint contained general allegations that the interests of both organizations and their members "will be irreparably harmed if the defendants continue to violate NEPA and NFMA," *id.* paras 8, 9, but did not describe how (or even allege that) any of their members would be injured specifically

by the measures to be undertaken in the Freds and Power projects.

b. On August 16, 2005, respondents (collectively Earth Island) moved for a temporary restraining order and preliminary injunction to prevent further implementation of the projects. Earth Island argued, *inter alia*, that the Forest Service (1) used faulty methodology in developing its guidelines for projecting tree mortality, which were used to determine which burnt trees would be cut; (2) ignored adverse impacts of the projects on the California Spotted Owl (CASPO); and (3) failed to compile sufficient population data for certain so-called Management Indicator Species (MIS) of birds identified in the applicable forest plan. App. 66a. In making those arguments, Earth Island relied upon expert declarations generated specifically for use in court. *Id.* at 22a, 34a, 39a, 68a. The declarations themselves totaled 45 pages, with dozens of additional pages of exhibits. Earth Island did not provide the declarations to the Forest Service during the comment period on the FEISs.[1] Like their complaint, respondents' motion did not identify any of their members who would visit the burned areas or how any such members would personally be injured by the two projects.

On August 18, 2005, the district court entered a temporary restraining order that prohibited further timber harvesting while the district court considered Earth Island's request for

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[1] A Notice of Availability of the Draft EIS for the Power project was published in the *Federal Register* on March 25, 2005. The comment period closed on May 9, 2005. App. 97a. The Forest Service provided the same time period for comment on the Freds Draft EIS. Both the Center for Biological Diversity and the John Muir Project (described as a project of Earth Island, see Compl., para. 8) submitted comments on the draft EISs, including comments from experts criticizing the tree mortality guidelines and the Forest Service's mitigation measures for bird species. During the litigation, however, Earth Island did not rely on the comment letters, but instead submitted new declarations that were not part of the administrative record.

a preliminary injunction. On August 25, 2005, the district court denied the motion for a preliminary injunction. App. 63a-78a. Invoking Ninth Circuit standards, the district court stated that, in order to obtain a preliminary injunction, "a party must demonstrate either: 1) a combination of probable success on the merits and the possibility of irreparable injury; or 2) that serious questions are raised and the balance of hardships tips sharply in [its] favor." *Id.* at 67a (citing *Stuhlbarg Int'l Sales Co.* v. *John D. Brush & Co.*, 240 F.3d 832, 839-840 (9th Cir. 2001)). The district court noted that those two alternatives represent two points on a sliding scale, "pursuant to which the required degree of irreparable harm increases or decreases in inverse correlation to the probability of success on the merits." *Ibid.* (citations omitted). The district court further explained, however, that "[u]nder any formulation of the test, plaintiff must demonstrate that there exists a significant threat of irreparable injury." *Ibid.* (citing *Oakland Tribune, Inc.* v. *Chronicle Publ'g Co.*, 762 F.2d 1374 (9th Cir. 1985)).

i. Applying that test, the district court first concluded that Earth Island had not demonstrated a probability of success with respect to any of its claims that the projects violated NEPA and NFMA, reviewing the agency decisions under the APA's arbitrary and capricious standard. App. 68a-77a.[2] Deferring to the opinions of the Forest Service's experts, the court concluded that Earth Island had not made that showing in its challenges to the Forest Service's tree mortality guidelines. *Id.* at 69a-71a. The court explained that examination of the FEISs "shows that the Forest Service identified the methodologies it used in reaching conclusions in these areas, provided supporting data for those conclusions, and cited the

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[2] The district court did not specifically address the Forest Service's objection to respondents' reliance on the declarations filed for the first time in court.

scientific literature relied upon for said conclusions." *Id.* at 69a.

The district court also ruled that Earth Island was unlikely to succeed on its claim that the Forest Service violated NFMA by failing adequately to monitor populations of three species—the hairy woodpecker (HAW), black-backed woodpecker (BBW), and Williamson's sapsucker (WSS). The district court accepted Earth Island's contention that Appendix E to the FEIS for the 2001 Sierra Nevada Forest Plan Amendment (SNFPA)—a special framework applicable to several forest plans —requires some level of population monitoring for two of the species, the HAW and the WSS. App. 71a-72a. But it noted that the SNFPA expressly contemplated varying levels of monitoring and "may consequently be read as envisioning a lower level of monitoring, and some flexibility," for species identified in the SNFPA as being of "low" vulnerability, such as the HAW and WSS. *Id.* at 72a. The court concluded that the Forest Service had obtained sufficient information on those species from a Breeding Bird Survey. *Id.* at 70a-74a.

The district court further determined that, even assuming some monitoring violation had occurred, Earth Island had failed to show irreparable harm. The court explained:

> [E]ven if the Power and Freds projects proceed without proper population monitoring for the two woodpecker species at issue, that does not necessarily mean that any immediate and irreparable injury will occur in the absence of that monitoring. Any preference by those birds for severely burned habitat may be more than satisfied by the untreated/unharvested portions of the project areas, which total some 36 percent for Freds and 40 percent for Power. Additionally, even within areas to be harvested some snags will be retained, and acreage for cavity-nesting habitat is set aside in both projects * * *.

App. 74a (footnote omitted).

Finally, the court concluded that Earth Island had not shown a likelihood of success with respect to possible impacts on the CASPO. App. 75a-77a. The court noted that each of the fire areas contained designated protected activity centers (PAC) for the owls, but that it appeared undisputed that much of the area occupied by those PACs was severely burned. "Nonetheless," the court explained, "in an effort to accommodate the needs of the CASPO, the [Forest Service] not only retained as much suitable owl habitat that remained within the project area, but also attempted to retain many of the previously constituted PACs by including some burned habitat." *Id.* at 75a. The court also pointed out that the Forest Service had demonstrated that "prevailing scientific evidence supports the notion that preferred spotted owl habitat entails two canopy layers and between 40 and 70 percent canopy cover, depending on whether the use in question is for nesting or foraging," *id.* at 76a—features that typically would not be present in burned areas. Although Earth Island pointed to a study indicating that spotted owls in southwestern Oregon had spent a significant amount of time roosting and foraging in burned areas, *id.* at 75a, the court noted that both FEISs explained why that study was "preliminary and not dispositive as to suitability," *id.* at 76a.

ii. The district court further concluded that "[e]ven if [respondents] were successful in demonstrating some environmental harm, in balancing the relative hardships there is no presumption that environmental harm should outweigh other potential harm to the public interest." App. 77a. Here, the court observed, the projects serve important public interests, including protecting the Forest and its surrounding communities from the threat of future devastating fires, protecting forest workers and the public from the danger of falling trees, and generating funds for future reforestation. *Id.* at

77a-78a. The court thus concluded that the balance of hardships did not tip sharply in Earth Island's favor. *Id.* at 77a.

3. a. On March 24, 2006, the court of appeals reversed the district court and directed it to issue a preliminary injunction. App. 1a-58a. The court first determined that Earth Island's challenges to the projects were not moot, despite the substantial progress that had been made to implement the projects and harvest in the burned areas. The court reasoned that some timber harvest remained and, in any event, "revising the tree mortality guidelines, monitoring of the California spotted owl, and obtaining more accurate population surveys of MIS bird species" could provide "some effective relief" to Earth Island. *Id.* at 13a. The court then proceeded to address the four factors that must be considered in determining whether a preliminary injunction would be proper.

In first addressing the likelihood of success on the merits, the court conducted an essentially de novo review and reached a conclusion contrary to that of the district court, based primarily on Earth Island's non-administrative-record declarations. The Forest Service again objected to consideration of those declarations, but the court dismissed that objection, stating without elaboration that it could consider them to "determine whether the agency has considered all relevant factors and has explained its decision." App. 22a (quoting *Southwest Ctr. for Biological Diversity* v. *USFS*, 100 F.3d 1443, 1450 (9th Cir. 1996)). Crediting Earth Island's experts, the court concluded that Earth Island had shown a strong likelihood of success on its NEPA challenges to the accuracy of the tree mortality guidelines and to its related challenge to the adequacy of the FEISs' analyses of the projects' effects on the CASPO. *Id.* at 18a-33a, 38a-46a. The court also decided that Earth Island was likely to succeed on its NFMA claim that the Forest Service failed to conduct MIS monitoring allegedly required under the SNFPA. *Id.* at 46a-54a.

With respect to a showing of irreparable injury, the court of appeals held that the district court erred in requiring a

plaintiff to show a "significant threat of irreparable injury" in order to obtain preliminary injunctive relief. App. 13a-16a. Instead, the panel interpreted prior Ninth Circuit decisions to require a plaintiff to show only a "mere possibility of irreparable harm" if it demonstrates a probability of success on the merits. *Id.* at 15a. Here, the court held that Earth Island had made such a showing, because the projects "may result in the unnecessary cutting of trees that would otherwise survive, in harm to the [CASPO], and * * * to several MIS bird species." *Id.* at 54a-55a.

The court also concluded, contrary to the district court, that "the balance of hardships * * * tips in Earth Island's favor." App. 55a. The court characterized the injuries to the Forest Service and intervenor Sierra Pacific Industries (SPI) as merely "economic losses"—presumably referring to the lost economic value of the deteriorating timber—and ruled that the public interest in prevention of potential irreparable environmental damage was paramount. *Ibid.* In considering the public interest, the court did not mention the fire prevention, public safety, and forest reforestation benefits of the projects that the Forest Service had identified and that the district court cited as supporting the denial of injunctive relief.

b. Judge Noonan filed a concurring opinion. App. 57a-58a. Judge Noonan suggested that the Forest Service has a financial conflict of interest when it sells timber from National Forests. *Id.* at 57a. He reiterated his previously stated view that if the Forest Service is a "biased adjudicator," then "its determination is a nullity." *Ibid.* (citation omitted). However, unlike the panel majority, Judge Noonan was uncertain as to Earth Island's likelihood of success. He observed that it is difficult for a reviewing court to master the large record in an environmental case "and to be confident in its discrimination between expert opinions." *Ibid.* Therefore, he would have remanded the case to the district court to conduct an "investigation and evaluation" of the Forest Service's finan-

cial interest in the timber sales, to apply the correct legal standard, and "to make its own estimate of the probability of Earth Island's success on the merits." *Ibid.*

4. After the court of appeals denied the government's petition for rehearing en banc, the case was remanded to the district court. That court entered the required preliminary injunction on August 31, 2006. Order Granting Prelim. Inj. 1-5 (Aug. 31, 2006).[3] The court allowed the Forest Service to remove logs that have already been cut and hazard trees, but enjoined further timber harvest. Although some of the timber has deteriorated in value, timber not yet harvested retains economic value and would be harvested if the injunction is vacated.

REASONS FOR GRANTING THE PETITION

In reversing the district court's decision denying a preliminary injunction, the court of appeals seriously erred with respect to the showing a plaintiff must make to justify the entry of a preliminary injunction. First, in determining that respondents had demonstrated a likelihood of success on the merits, the court of appeals relied on its own de novo review of declarations and appended material filed by respondents in the district court, rather than confining itself to determining whether the Forest Service's decisions were arbitrary and capricious on the basis of the administrative record. Second, the court also held that respondents could satisfy the irreparable injury prong by demonstrating a "mere possibility of irreparable harm," App. 15a, expressly rejecting any requirement that they must show at least a significant risk of irreparable harm, *id.* at 15a-16a. Those rulings are fundamentally wrong and squarely conflict with decisions of this Court and other courts of appeals.

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[3] The court of appeals had granted an emergency injunction pending appeal on January 11, 2006. App. 59a-60a. A motions panel of the court had previously denied such an injunction. *Id.* at 61a-62a.

In addition, the court of appeals erred in evaluating the third and fourth factors, the balance of harms and the public interest. On both factors, the court gave dispositive weight to impacts it perceived on habitat of certain species of birds, none of which is listed as endangered or threatened under the Endangered Species Act of 1973, without addressing whether there would be any resulting significant impact on the viability of the species themselves. At the same time, the court discounted or ignored entirely other interests that, by statute, must be considered by the Forest Service in the administration of National Forests under principles of multiple use and sustained yield. The net effect was to deprive the Forest Service of its statutorily conferred role in weighing competing objectives.

Review by this Court is warranted to correct the Ninth Circuit's significant legal errors and resolve the resulting conflicts with decisions of this Court and other courts of appeals. Review is also warranted because of the decision's considerable practical importance, given the vast tracts of public land in the Ninth Circuit and the disruption to management of those lands and circumvention of orderly administrative processes that it allows. Review will enable this Court to restore a workable standard for preliminary injunctions in the Ninth Circuit for actions brought under the APA.

I. The Ninth Circuit Erred With Respect To Each Of The Four Factors To Be Considered In Ruling On A Motion For A Preliminary Injunction

A. Likelihood of success on the merits. The court of appeals departed dramatically from this Court's precedents and those of other courts of appeals by relying on evidentiary submissions outside the administrative record to hold that Earth Island had established a likelihood of success on the merits. The "scope of review under the 'arbitrary and capricious' standard is narrow and a court is not to substitute its judgment for that of the agency." *Motor Vehicle Mfrs. Ass'n*

v. *State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983). And as the Court has repeatedly stressed, "the focal point for judicial review should be the administrative record already in existence, not some new record made initially in the reviewing court." *FPC* v. *Transcontinental Gas Pipe Line Corp.*, 423 U.S. 326, 331 (1976) (quoting *Camp* v. *Pitts*, 411 U.S. 138, 142 (1973) (per curiam)). The court therefore must review the agency's decision under the APA's arbitrary and capricious test on the basis of the administrative record, *Florida Power & Light Co.* v. *Lorion*, 470 U.S. 729, 743-744 (1985); *Citizens to Preserve Overton Park Inc.* v. *Volpe*, 401 US. 402, 415, 419-420 (1971) (*Overton Park*), and must sustain the agency's factual determinations unless any reasonable fact-finder would be compelled to reach a contrary conclusion under the standards applicable to a directed verdict or judgment notwithstanding a jury verdict in court. See *INS* v. *Elias-Zacarias*, 502 U.S. 478, 481 (1992).

The rule limiting judicial review to the administrative record on which the agency made its decision applies with equal force to NEPA cases, see *Vermont Yankee Nuclear Power Corp.* v. *NRDC*, 435 U.S. 519, 553-555 (1978), and to rulings on preliminary injunction motions, see *American Biosci., Inc.* v. *Thompson*, 243 F.3d 579, 582 (D.C. Cir. 2001). By confining judicial review to the administrative record, the APA precludes the reviewing court from substituting its opinion for that of the agency, *United States* v. *Morgan*, 313 U.S. 409, 422 (1941), and maintains the integrity and primacy of the administrative process by requiring a party who wishes to oppose the agency's proposed action to submit his evidence and arguments to the agency in the first instance, *Department of Transportation* v. *Public Citizen*, 541 U.S. 752, 764-765 (2004).

The Ninth Circuit nonetheless held that it could consider Earth Island's new evidentiary submissions in court to "determine whether the agency has considered all relevant factors and has explained its decision." App. 22a (quoting *South-*

west Ctr. for Biological Diversity, 100 F.3d at 1450). In fact, Earth Island offered the non-record declarations of Dr. Edwin Royce and Monica Bond as new grounds for attacking the Forest's Service's data and evaluations, and that is the purpose for which they were used by the court of appeals. *Id.* at 19a-45a. The court of appeals performed a detailed, side-by-side comparison of those declarations and the competing expert declarations the government felt compelled to file to respond to those of Earth Island, decided that the opinions of Earth Island's experts were more persuasive, and found on the basis of that exercise that Earth Island was likely to succeed on the merits. *Ibid.*

The court of appeals' approach finds no support in this Court's decisions and is fundamentally incompatible with standard principles of deferential review of agency action. This Court has made clear that supplementing the administrative record is allowed only when that record is so inadequate that the reviewing court cannot understand the agency's decision or the basis of that decision. And even in that situation, any supplementation of the record would be in the form of an explanation *by the agency* of the basis for its decision. See *Camp* v. *Pitts*, 411 U.S. at 142-143 ("If * * * there was such failure to explain administrative action as to frustrate effective judicial review, the remedy [is] * * * to obtain from the agency, either through affidavits or testimony, such additional explanation of the reasons for the agency decision as may prove necessary."); *Overton Park*, 401 U.S. at 420 (stating that where there are no formal findings, examining the decisionmakers themselves may be the only way there can be effective judicial review).[4]

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[4] The preferable course where the agency's explanation is inadequate might instead often be to remand to the agency to afford it an opportunity to furnish a more complete explanation within the established procedures for agency decisionmaking.

That limited exception would not apply in a case like this, in which the agency record includes a ROD and FEIS for each project, as well as extensive administrative record material. Those materials are far more than sufficient for the reviewing court to understand the basis of the agency's decision. And in any event, the limited exception identified in *Camp* v. *Pitts* and *Overton Park* would not permit consideration of new evidentiary materials submitted in court by parties challenging the agency's decision.[5]

Other courts of appeals limit the exception to those cases in which the agency's decision is inadequately explained. *E.g.*, *Voyageurs Nat. Park Ass'n* v. *Norton*, 381 F.3d 759, 766 (8th Cir. 2004); *Commercial Drapery Contractors, Inc.* v. *United States*, 133 F.3d 1, 7 (D.C. Cir. 1998). When there is "a contemporaneous administrative record and no need for additional explanation of the agency decision, 'there must be a strong showing of bad faith or improper behavior' before the reviewing court may permit discovery and evidentiary supplementation of the administrative record." *Newton County Wildlife Ass'n* v. *Rogers*, 141 F.3d 803, 807-808 (8th Cir. 1998) (quoting *Overton Park*, 401 U.S. at 420). Consistent with these principles, most courts of appeals do not permit plaintiffs to attack the agency's decision on the basis of materials outside the administrative record. See, *e.g.*, *American Coke & Coal Chems. Inst.* v. *EPA*, 452 F.3d 930, 945 (D.C. Cir. 2006); *NVE, Inc.* v. *Department of Health & Human*

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[5] The Ninth Circuit itself has, in other cases, recognized the prohibitions on the use of extra-record materials to attack the substantive basis of the agency's decision. See, *e.g.*, *Center for Biological Diversity* v. *United States Fish & Wildlife Serv.*, 450 F.3d 930, 943-944 (9th Cir. 2006); *Southwest Ctr. for Biological Diversity*, 100 F.3d at 1450-1451; *Association of Pac. Fisheries* v. *EPA*, 615 F.2d 794, 811-812 (9th Cir. 1980).

Serv., 436 F.3d 182, 189 (3d Cir. 2006); *Custer County Action Ass'n* v. *Garvey*, 256 F.3d 1024, 1028 n.1 (10th Cir. 2001).[6]

The court of appeals' decision to consider such extra-record materials here thus was wrong, inconsistent with this Court's decisions, and in conflict with decisions of other courts of appeals. The court's consideration of those materials tainted virtually its entire analysis of respondents' likelihood of success on the merits. If review is confined to the administrative record, under the arbitrary and capricious standard, Earth Island has not begun to make the required showing of a likelihood of success on the merits.

The court of appeals believed that the two projects must be enjoined because the Forest Service had not conducted adequate monitoring of certain MIS species of birds. See App. 46a-54a. The general framework applicable to the Eldorado National Forest under the SNFPA does contemplate some degree of monitoring for the HAW and WSS, although as the district court noted, it also contemplates flexibility in the case of such species, whose vulnerability is "low." See Resp. C.A. E.R., Tab 1, at E-62 to E-64. More fundamentally, however, the Forest Service interprets the monitoring provision as a plan-level goal dependent upon future funding, not a binding commitment. See Pet. C.A. Br. 25-26 n.8. As this Court made clear in *Norton* v. *Southern Utah Wilderness Alliance*, 542 U.S. 55, 72 (2004), such "'will do' projections of agency action set forth in land use plans" are "not a legally binding commitment." But even if the Forest Service had an

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[6] In *National Audubon Soc'y* v. *Hoffman*, 132 F.3d 7, 15 (2nd Cir. 1997), the Second Circuit suggested that the scope of a court's authority to allow supplementation of the record might be greater in NEPA cases, reasoning that the court needs to understand whether the agency has ignored significant environmental impacts of its action and the agency record itself may not answer that question. That suggestion cannot be squared with this Court's decision in *Public Citizen*, 541 U.S. at 764-765, which requires that objections to the NEPA analysis be provided to the agency during the comment period.

obligation to conduct greater monitoring than it did, nothing in the SNFPA purports to condition the Forest Service's authority to approve site-specific actions on the performance of such general monitoring. Moreover, as the district court ruled, the data from the Breeding Bird Survey, on which the Forest Service relied, furnished an adequate evidentiary basis for the Forest Service's decisions for these two projects.

With respect to the possible impact on the CASPO, the court of appeals acknowledged the extensive mitigation measures undertaken by the Forest Service to protect areas for those birds. See App. 40a-43a. In nevertheless finding that respondents had established a likelihood of success on the merits, the court relied almost entirely on factual assertions made in respondents' declarations concerning the CASPO, *id.* at 39a-40a, 45a, and on the court's criticism of the Forest Service's mortality guidelines for selecting which trees to cut, *id.* at 44a-45a, which in turn was also based on such assertions and was itself confused and seriously flawed. Moreover, as the district court pointed out, App. 75a-76a, the FEISs specifically addressed the study cited by respondents suggesting that spotted owls might use burned habitat, and explained why the Forest Service did not find it sufficiently probative.

B. Irreparable injury. The Ninth Circuit's decision also waters down the irreparable harm component of the plaintiff's burden in seeking a preliminary injunction to the point that the requirement is effectively meaningless. On that ruling as well, the Ninth Circuit's decision conflicts with decisions of this Court. It also conflicts with decisions of other courts of appeals, which have held that at least a significant likelihood of irreparable harm must be shown regardless of the plaintiff's likelihood of success on the merits.

1. The Ninth Circuit has generally applied a sliding scale approach to preliminary injunctions, under which the required degree of irreparable harm increases as the probability of success decreases. See, *e.g.*, *Clear Channel Outdoor Inc.* v. *City of Los Angeles*, 340 F.3d 810 (2003); *Los Angeles*

Mem'l Coliseum Comm'n v. *NFL*, 634 F.2d 1197, 1200-1201 (1980). The district court in this case held that no matter where the case falls on the sliding scale, "plaintiffs must demonstrate a significant threat of irreparable injury." App. 67a. The court of appeals expressly disagreed, holding that a showing of a "mere possibility" of irreparable harm was sufficient for Earth Island to carry its burden. *Id.* at 15a.[7]

a. The Ninth Circuit's dilution of the irreparable harm requirement conflicts with decisions of this Court. "The basis of injunctive relief in the federal courts has always been irreparable harm and inadequacy of legal remedies." *Sampson* v. *Murray*, 415 U.S. 61, 88 (1974) (quoting *Beacon Theatres, Inc.* v. *Westover*, 359 U.S. 500, 506-507 (1959), and citing *Virginia Petroleum Jobbers Ass'n* v. *FPC*, 259 F.2d 921 (9th Cir. 1958)); accord *Mazurek* v. *Armstrong*, 520 U.S. 968, 972 (1997); *Weinberger* v. *Romero-Barcelo*, 456 U.S. 305, 312 (1982). In *Doran* v. *Salem Inn, Inc.*, 422 U.S. 922, 931 (1975), the Court held that "[t]he traditional standard for granting a preliminary injunction requires the plaintiff to show that in the absence of its issuance he *will suffer* irreparable injury *and also* that he is likely to prevail on the merits." (emphasis added). The Court has continued to apply that test. See *Ashcroft* v. *ACLU*, 542 U.S. 656, 666 (2004); *Grupo Mexicano*

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[7] This express disavowal of a "significant risk" requirement marks the resolution of two lines of decisions in the Ninth Circuit. In one line, the court had held that a preliminary injunction may be issued based on nothing more than a possibility of harm. See *Earth Island Inst.* v. *USFS*, 351 F.3d 1291, 1298 (9th Cir. 2003); *Kootenai Tribe* v. *Veneman*, 313 F.3d 1094, 1115 (9th Cir. 2002); *Sammartano* v. *First Judicial Dist. Court*, 303 F.3d 959, 972-973 (9th Cir. 2002); *Idaho Sporting Cong.* v. *Alexander*, 222 F.3d 562, 565 (9th Cir. 2000). In another line of cases, however, the Ninth Circuit had held that under any formulation of the sliding scale, "plaintiff must demonstrate that there exists a significant threat of irreparable injury." *Simula, Inc.* v. *Autoliv, Inc.*, 175 F.3d 716, 725 (1999); *Associated Gen. Contractors of Cal., Inc.* v. *Coalition for Econ. Equity*, 950 F.2d 1401, 1410 (1991), cert. denied, 503 U.S. 985 (1992); *Big Country Foods* v. *Board of Educ.*, 868 F.2d 1085, 1088 (1989); *Oakland Tribune Inc.* v. *Chronicle Publ'g Co.*, 762 F.2d 1374, 1376 (1985).

de Desarrollo S.A. v. *Alliance Bond Fund, Inc.*, 527 U.S. 308, 340 (1999) (Ginsburg, J., concurring in part and dissenting) (citing *Doran*, 422 U.S. at 931); *Amoco Prod. Co.* v. *Village of Gambell*, 480 U.S. 531, 545 (1987). See also *eBay Inc.* v. *MercExch., L.L.C.*, 126 S. Ct. 1837, 1839 (2006).[8]

This is not the first time the Ninth Circuit has departed from that requirement. In *Gambell*, the Ninth Circuit had ruled that "[i]rreparable damage is presumed when an agency fails to evaluate thoroughly the environmental impacts of a proposed action." 774 F.2d 1414, 1423 (1985). It further decided that injunctive relief was the appropriate remedy for violation of an environmental statute "absent rare or unusual circumstances." *Ibid.* This Court reversed, reiterating its ruling in *Romero-Barcelo* that courts should apply traditional equitable principles in deciding whether to enjoin violations of environmental statutes absent an express limitation placed on those principles by Congress. 480 U.S. at 541-543. The Court also rejected the Ninth Circuit's presumption of irreparable harm and stated that irreparable injury must be "*sufficiently likely*" before an injunction is issued. *Id.* at 545 (emphasis added).

The Ninth Circuit's "possibility of irreparable harm" standard in some ways strays even farther from traditional equitable principles than the *Gambell* presumption, since a presumption of harm can be rebutted, while disproving a "mere possibility" of harm is rarely feasible, particularly in land-use cases where a site-specific action will almost always have some impact on the physical environment. Thus, the Ninth Circuit's "mere possibility" standard is akin to no standard at all. See *Beltran* v. *Smith*, 458 U.S. 1303, 1305 (1982) (mere possibility of additional risk did not rise to the level of irreparable injury necessary to obtain a preliminary injunction).

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[8] *eBay* involved a permanent injunction, but the test for irreparable harm is essentially the same when the plaintiff seeks a preliminary injunction. See *Gambell*, 480 U.S. at 546 n.12.

b. Consistent with this Court's requirements, the courts of appeals have generally insisted that a plaintiff seeking a preliminary injunction show that it will be irreparably harmed absent relief from the court, not just that such harm is possible. See, *e.g.*, *Globe Nuclear Servs. & Supply GNSS, Ltd.* v. *AO Techsnabexport* 376 F.3d 282, 287 (4th Cir. 2004); *Siegel* v. *LePore*, 234 F.3d 1163, 1176 (11th Cir. 2000) (en banc); *AlliedSignal, Inc.* v. *B.F. Goodrich Co.*, 183 F.3d 568, 573 (7th Cir. 1999); *Rushia* v. *Town of Ashburnham*, 701 F.2d 7, 9 (1st Cir. 1983). Accordingly, other courts of appeals have held that a mere possibility of irreparable harm is insufficient to justify an injunction, either by expressly so stating, see *Borey* v. *National Union Fire Ins. Co.*, 934 F.2d 30, 34 (2d Cir. 1991), or by holding that the plaintiff must show a "realistic prospect" or "significant risk" or "substantial likelihood" of irreparable injury, see, *e.g.*, *Matos ex rel. Matos* v. *Clinton Sch. Dist.*, 367 F.3d 68, 73 (1st Cir. 2004); *Greater Yellowstone Coal.* v. *Flowers*, 321 F.3d 1250, 1258 (10th Cir. 2003); *Adams* v. *Freedom Forge Corp.*, 204 F.3d 475, 484-485 (3d Cir. 2000); *Siegel*, 234 F.3d at 1179. Under those decisions, the plaintiff must at a minimum show a significant risk of irreparable harm in order to obtain an injunction. That standard is demanding. See *Adams*, 204 F.3d at 485.

Some circuits have adopted a version of a sliding scale, but their tests retain the requirement that the plaintiff show at least a significant risk of irreparable harm as the ticket for admission to the enjoining of an action, regardless of the action's illegality. For example, in the Fourth Circuit a plaintiff who raises serious questions on the merits, but cannot establish a likelihood of success on the merits, may obtain a preliminary injunction by showing that the balance of hardships strongly favors relief. See *Rum Creek Coal Sales, Inc.* v. *Caperton*, 926 F.2d 353 (4th Cir.1991); *Blackwelder Furniture Co.* v. *Seilig Mfg. Co.*, 550 F.2d 189 (4th Cir. 1977). But the plaintiff still "must show that it will sustain irreparable harm without a preliminary injunction. The 'balance of hardship'

test does not negate the requirement that the [plaintiff] show some irreparable harm." *Rum Creek Coal Sales*, 926 F.2d at 360. Similarly, the Tenth Circuit has adopted a sliding scale but requires the plaintiff to show at least a significant risk of irreparable harm. See *Greater Yellowstone Coal.*, 321 F.3d at 1258, 1261-1262.

The Second Circuit has endorsed a sliding-scale approach in some circumstances (with a showing of irreparable harm as a necessary component), but it will not apply that approach when injunctive relief is sought "against government action taken in the public interest pursuant to a statutory or regulatory scheme." *Forest City Daly Housing, Inc.* v. *Town of N. Hempstead*, 175 F.3d 144, 149 (2d Cir. 1999). That rule reflects appropriate judicial deference to "legislation or regulations developed through presumptively reasoned democratic processes." *Ibid.* (quoting *Able* v. *United States*, 44 F.3d 128, 131 (2d Cir. 1995) (per curiam)). The Second Circuit also will not apply that approach when "an injunction will provide the movant with substantially all the relief sought and that relief cannot be undone even if the defendant prevails at a trial on the merits." *Id.* at 150 (citation omitted). Thus, the Second Circuit would not apply the sliding scale here, where the projects were undertaken pursuant to statutory directive to serve public interests identified by Congress. Moreover, for salvage logging projects such as these, which attempt to derive some value from a wasting asset, a preliminary injunction may grant the plaintiff substantially all the relief it seeks because the fire-damaged timber may deteriorate in value so much prior to final judgment that the Forest Service may have to cancel the timber sale even if it ultimately prevails.

2. Not only did the court of appeals base its ruling on a mere possibility of injury, the court did not identify any injury to any member of either of the respondents. Instead, the court pointed merely to the general possibility of environmental injury. App. 55a. That is insufficient to justify an injunction. In *Friends of the Earth* v. *Laidlaw*, 528 U.S. 167 (2000),

the Court explained that in cases alleging environmental injury, the relevant showing for purposes of Article III standing "is not injury to the environment, but injury *to the plaintiff.*" *Id.* at 180-181 (emphasis added). "[T]he 'injury in fact' test requires more than an injury to a cognizable interest. It requires that the party seeking review *be himself among the injured.*" *Lujan* v. *Defenders of Wildlife*, 504 U.S. 555, 563 (1992) (quoting *Sierra Club* v. *Morton*, 405 U.S. 727, 734-735 (1972)) (emphasis added).

Here, Earth Island's burden was much greater because "[a] plaintiff must do more than merely allege imminent harm sufficient to establish standing; a plaintiff must *demonstrate* immediate threatened injury as a prerequisite to preliminary injunctive relief." *Caribbean Marine Servs. Co.* v. *Baldrige*, 844 F.2d 668, 674 (9th Cir. 1988) (citation omitted). The plaintiff organizations failed to show that their members face any such threat from implementation of the projects. Their amended complaint alleged only generalized interests in public forest lands. Compl. paras. 8, 9. Even assuming that the record showed a possible risk of irreparable harm to Forest resources, the organizations failed to show that their members actually use those Forest resources, and that the members' use and enjoyment of those resources is in imminent danger of being irreparably injured if operations continue.

3. Had the court of appeals required Earth Island to demonstrate a significant threat of irreparable harm rather than a mere possibility of injury, Earth Island could not have prevailed. The court of appeals concluded that Earth Island had shown a "possibility" of injury to "several MIS bird species," without explaining the nature of that possible harm. App. 54a-55a. None of the MIS bird species for which the court of appeals found monitoring violations (the HAW, WSS, and BBW) is listed as an endangered or threatened species under the Endangered Species Act of 1973 (ESA), 16 U.S.C. 1531 *et seq.*; nor are they designated as sensitive species in Forest Service Region 5, C.A. E.R. Tab 9, at 184, Table 3-44. The

mere cutting of trees that a non-listed, non-sensitive bird species might otherwise use as habitat is not irreparable harm. See *Fund for Animals* v. *Frizzell*, 530 F.2d 982, 987 (D.C. Cir. 1975).[9] Moreover, as the district court noted with respect to the HAW and WSS, "[a]ny preference by those birds for severely burned habitat may be more than satisfied by the untreated/unharvested portions of the project areas" and by burned habitat outside of the project areas. App. 73a-74a & n.2.[10]

As for the CASPO, while it is not a federally listed threatened or endangered species, it is designated as a "sensitive species" for the Eldorado National Forest.[11] The district court correctly concluded that, "in an effort to accommodate the needs of the CASPO, the [Forest Service] not only retained as much suitable owl habitat that remained within the project area, but also attempted to retain many of the previously constituted [protected activity centers for the CASPO]

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[9] In addition, the WSS is a "forest associate," a species "found to be less abundant in recent high intensity burned forest as compared to unburned forest." Power FEIS, C.A.E.R. Tab A at 197 & Table 3-51.

[10] The district court did not make any specific determination concerning harm to the BBW. It did not need to do so because population monitoring is not required for that species. The document the district court accepted as requiring population monitoring for the HAW and the WSS does not mention the BBW. Resp. C.A. E.R. Tab 1, Table E-9. In any event, the court of appeals failed to identify any irreparable injury to the BBW, and the record rebuts any such theory. See Power FEIS, C.A. S.E.R. 249, Table 3-77 (showing that, while timber harvest will reduce the heavily burned habitat added by the 2004 fires, the estimated available habitat and number of BBW individuals in the Power project area will still be greater after the timber harvest than before the fires).

[11] In June of 2005, the United States Fish and Wildlife Service issued a "90-day finding" under the ESA, 16 U.S.C. 1533(b)(3)(A), determining that sufficient information existed to warrant a review of whether the CASPO should be listed under the Act. 70 Fed. Reg. 35,607 (June 21, 2005). The Service has since determined that listing is not warranted. 71 Fed. Reg. 29,886 (May 24, 2006).

by including some burned habitat." App. 74a; see also App. 40a-43a.

C. Balance of harms and the public interest. Finally, the court of appeals erred in its cursory discussion of the balance of harms and the public interest insofar as it bears on the issuance of an injunction. The court acknowledged that, "with some reason," both the Forest Service and SPI contend that "they will suffer economic losses if we enjoin the timber sales." App. 55a. But the court pointed to what it regarded as the importance of "the public's interest in preserving precious, unreplenishable resources," and concluded that loss of anticipated revenues did not outweigh the potential irreparable damage to the environment. *Ibid.* (quotation omitted). Similarly, the court concluded that a preliminary injunction would advance the public interest, stating simply that "[t]he preservation of our environment, as required by NEPA and the NFMA, is clearly in the public interest." *Ibid.* The court's analysis was divorced from both the statutory scheme and the record in this case.

The Forest Service is charged with managing National Forests under principles of multiple use and sustained yield of resources. "Multiple use management is a deceptively simple term that describes the enormously complicated task of striking a balance among the many competing uses to which land can be put." *Southern Utah Wilderness Alliance*, 542 U.S. at 58. Any consideration of the balance of harms and public interest in determining whether a court should exercise its equitable discretion to issue a preliminary injunction must be consistent with the governing statutory framework that itself establishes that all of these competing uses, not merely the use of some trees as habitat by certain non-endangered species of birds, are in the public interest. See *Gambell*, 480 U.S. at 545-546; *Virginia Ry. Co.* v. *System Fed'n No. 40*, 300 U.S. 515, 551 (1937). Indeed, because Congress has vested in the Secretary of Agriculture, through the Forest Service, the responsibility for balancing the various competing uses under

principles of multiple use and sustained yield, there is a decided public interest in respecting the balance that has been struck by the Forest Service, absent a clear showing at the preliminary-injunction stage of the case that the Forest Service's decision was arbitrary and capricious and that specifically identified and substantial irreparable injury will very likely ensue. A court should not be able to use its sense that some of the factors the agency must balance have at least the possibility of causing irreparable injury to allow it to frustrate the agency's decision and ultimately the entire statutory scheme.

Here, moreover, the court of appeals made no effort to ascertain the *weight* that should be accorded to the "possible" irreparable injuries to burned trees and the bird species that might use some of the habitat, much less the weight that should be accorded to the as-of-yet unidentified injuries to any of respondents' members that might result from any incremental impact on bird habitat. The court instead viewed the possibility of irreparable injury to those interests to be determinative.

The areas at issue in this case were already badly damaged by severe fires, and the Forest Service adopted projects having a variety of goals in response, including reducing fuel loading to decrease the risk of future fires, alleviating erosion, reducing safety hazards, and removing certain dead trees while they still had economic value. See pp. 5, 10, *supra*. In balancing harms, the court considered only the last factor, and dismissed it on the ground that it was a mere economic consideration. That approach, aside from focusing too narrowly on just one of the projects' goals, ignores the reality that the damaged timber was a wasting asset that the Forest Service, as a good steward of the public's resources, had an obligation to take into account, and that the loss of that asset would be irreparable if not harvested within a reasonable time after the fires. The court's approach also ignores the directive of Congress itself, in the statutes governing management

of the National Forests, that such competing uses should be taken into account by the Forest Service,[12] and therefore must be taken into account by a reviewing court as well when considering whether to enjoin the Forest Service from proceeding.

For these reasons, the court of appeals erred not only with respect to the likelihood that respondents would succeed on the merits and the mere "possibility" of irreparable harm, but also in weighing competing harms and considering the public interest.[13]

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[12] NFMA encourages salvage logging. 16 U.S.C. 1604(k), 1611(b). NFMA and related legislation also encourage the prevention of forest fires, public safety protection, and reforestation. See, *e.g.*, 16 U.S.C. 475, 551, 1601(d)(1), 1604(g)(3)(B), 1606a.

[13] The court of appeals also disregarded the deferential standard of review applicable to appellate review of preliminary injunction rulings, see *eBay*, 126 S. Ct. at 1839; *Doran*, 422 U.S. at 931-932 (citing *Brown* v. *Chote*, 411 U.S. 452, 457 (1973)), repeatedly ignoring the district court's evaluation of the evidence and substituting its judgment without pointing to any factual errors committed by the district court. A vivid example of that disregard is the manner in which it substituted its balancing of the hardships and interpretation of the public interest for the district court's exercise of its discretion. The district court concluded that "[e]ven if plaintiffs were successful in demonstrating some environmental harm," important public interests favored the denial of injunctive relief. App. 76a-77a. See pp. 27-28 & note 12. The court of appeals ignored the public interests the district court relied upon and substituted its view that the mere possibility of environmental injury outweighed the injuries to the government and SPI (which it incorrectly claimed are limited to "economic losses"). App. 55a. The abuse-of-discretion standard of review required the court of appeals to defer to the district court's reasonable balancing of the hardships. Its refusal to do so reflects a hostility to the Forest Service that it laid bare at the conclusion of its opinion, where it accused the Forest Service of putting financial considerations above compliance with the law. *Id.* at 57a.

II. Review By This Court Is Warranted

Review by this Court is warranted. As explained above, the Ninth Circuit erred with respect to the showing respondents were required to make on all four of the factors that must be considered in determining whether a preliminary injunction is proper. Moreover, as we have also explained, its decision conflicts with decisions of this Court and other courts of appeals.

In addition, the decision below is of substantial practical importance, especially given the vast tracts of public land in the Ninth Circuit that are now subject to the rules announced by that court. The Ninth Circuit encompasses more than 120 million acres of the 192.7 million acres in the National Forest System, and an additional 197 million acres of public lands under the jurisdiction of the Bureau of Land Management. The Ninth Circuit's decision opens up a wide avenue for wholesale circumvention of orderly agency processes by allowing parties challenging land-use decisions to rely in court on evidentiary materials never submitted to the agency. It also invites broad disruption of the ongoing management of federal lands by providing for the entry of a preliminary injunction on the basis of nothing more than a mere possibility of irreparable injury. And it disregards the substantial public interest in the balance struck by the agency, pursuant to statutory mandate, among the various potential competing considerations involved in the management of public lands. The Court should grant review to restore the proper standards for issuing preliminary injunctions in APA actions.

CONCLUSION

The petition for a writ of certiorari should be granted.

Respectfully submitted.

PAUL D. CLEMENT
Solicitor General

SUE ELLEN WOOLDRIDGE
Assistant Attorney General

EDWIN S. KNEEDLER
Deputy Solicitor General

JONATHAN L. MARCUS
Assistant to the Solicitor General

RONALD M. SPRITZER
Attorney

DECEMBER 2006

APPENDIX

Supreme Court, U.S.
FILED
06-797 DEC 8 - 2006
OFFICE OF THE CLERK

No.

In the Supreme Court of the United States

UNITED STATES FOREST SERVICE, ET AL.,
PETITIONERS

v.

EARTH ISLAND INSTITUTE AND THE CENTER FOR
BIOLOGICAL DIVERSITY

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

APPENDIX TO THE PETITION FOR A WRIT OF CERTIORARI

PAUL D. CLEMENT
Solicitor General
Counsel of Record
SUE ELLEN WOOLDRIDGE
Assistant Attorney General
EDWIN S. KNEEDLER
Deputy Solicitor General
JONATHAN L. MARCUS
Assistant to the Solicitor General
RONALD M. SPRITZER
Attorney
Department of Justice
Washington, D.C. 20530-0001
(202) 514-2217

TABLE OF CONTENTS

Page

Appendix A (court of appeals' opinion, dated Mar. 24, 2006) 1a

Appendix B (court of appeals' order granting injunction pending appeal, dated Jan. 11, 2006) 59a

Appendix C (court of appeals' order, dated Sept. 21, 2005) 61a

Appendix D (district court memorandum and order, dated Aug. 25, 2005) 63a

Appendix E (Record of Decision Power Fire Restoration) 79a

Appendix F (Record of Decision Freds Fire Restoration) 112a

Appendix G (court of appeals' denial of rehearing, dated July 12, 2006) 146a

APPENDIX A

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

No. 05-16776

EARTH ISLAND INSTITUTE, A CALIFORNIA NON-PROFIT ORGANIZATION; CENTER FOR BIOLOGICAL DIVERSITY, A NON-PROFIT ORGANIZATION,
PLAINTIFFS-APPELLANTS

v.

UNITED STATES FOREST SERVICE; DALE BOSWORTH, CHIEF OF THE UNITED STATES FOREST SSERVICE; JOHN BERRY, FOREST SUPERVISOR FOR EL DORADO NATIONAL FOREST, DEFENDANTS-APPELLEES

SIERRA PACIFIC INDUSTRIES,
DEFENDANT-INTERVENOR-APPELLEE

Filed: Mar. 24, 2006

BEFORE: NOONAN, TASHIMA, and W. FLETCHER, Circuit Judges.

WILLIAM A. FLETCHER, Circuit Judge.

Plaintiffs Earth Island Institute and the Center for Biological Diversity (collectively, "Earth Island") appeal the district court's denial of their motion for a preliminary injunction enjoining the implementation of two

United States Forest Service ("USFS") post-fire restoration projects in the El Dorado National Forest. Sierra Pacific Industries ("SPI") has joined defendants USFS, Dale Bosworth, and John Berry as an intervenor.

Earth Island contends that the Final Environmental Impact Statements ("FEISs") for both projects fail to meet the requirements set forth in the National Environmental Policy Act ("NEPA"), 42 U.S.C. § 4321 *et seq.*, because the USFS used faulty scientific methodology in developing its tree mortality guidelines, and because the FEISs failed to consider adequately the adverse impacts of the projects on the California spotted owl. Earth Island also contends that the FEISs fail to comply with the National Forest Management Act ("NFMA"), 16 U.S.C. § 1600 *et seq.*, because the USFS did not compile sufficient population data for certain bird Management Indicator Species ("MIS").

The district court denied Earth Island's request, finding (1) that the methodology employed in the FEISs with respect to the tree mortality guidelines was not arbitrary and capricious; (2) that the FEISs took a "hard look" at the adverse impacts of the projects on the California spotted owl, and (3) that the USFS had gathered sufficient population monitoring data for certain bird species that have been categorized as MIS. For the reasons set forth below, we hold that Earth Island has shown a "strong likelihood of success on the merits" of its NEPA and NFMA claims, and that it has otherwise satisfied the requirements for a preliminary injunction. We reverse and remand to the district court for further proceedings consistent with this opinion.

I. Statutory and Factual Background

In October 2004, two substantial fires burned portions of the El Dorado National Forest. The first, known as the Power Fire, consumed 16,993 acres of National Forest as well as additional acres of private land. The Power Fire burned at varying levels of intensity. According to the FEIS prepared for the Power Fire Restoration Project, approximately 38% of the forest area burned at low intensity; approximately 13% burned at moderate intensity, killing 25% to 75% of the trees; and approximately 48% burned at high intensity, killing 75% to 100% of the trees as well as burning the duff and litter protecting the soil. Several Protected Activity Centers ("PACs"), Home Range Core Areas ("HRCAs"), and Riparian Conservation Areas ("RCAs") for the California Spotted Owl were located in the Power Fire area. Certain MIS cavity-nesting birds, notably the hairy woodpecker, black-backed woodpecker, and Williamson's sapsucker, were present in Power Fire area.

The second fire, known as the Freds Fire, burned 7,700 total acres, 4,600 of which were in the National Forest. Like the Power Fire, the Freds Fire burned at varying levels of intensity. According to the FEIS, approximately 12% burned at low intensity; approximately 11% burned at moderate intensity, killing 33% to 66% of the trees; and approximately 61% burned at high intensity, killing 66% to 100% of the trees as well as burning the duff and litter protecting the soil. An additional 16% of young plantations also burned at high intensity. California spotted owl PACs, HRCAs, and RCAs were located in the Freds fire area. The hairy woodpecker, black-backed woodpecker, and

Williamson's sapsucker were also present in the Freds Fire area.

In response to the two fires, the USFS undertook the Power Fire Restoration Project and the Freds Fire Restoration Project. Both projects must comply with federal statutes as well as the relevant regional forest plans.

Under NEPA, federal agencies must prepare detailed environmental impact statements on every proposed action that "significantly affects the quality of the human environment." 42 U.S.C. § 4332(C). These statements must include a description and analysis of the environmental impact of the proposed action, any adverse environmental effects that cannot be avoided if the action is implemented, alternatives to the proposed action, the relationship between short-term uses and long-term productivity, and any irreversible or irretrievable commitment of resources that would be involved if the action were to be implemented. *Id.* In short, NEPA requires that a federal agency "consider every significant aspect of the environmental impact of a proposed action" and "inform the public that it has indeed considered environmental concerns in its decisionmaking process." *Kern v. U.S. Bureau of Land Mgmt.*, 284 F.3d 1062, 1066 (9th Cir. 2002) (internal quotations omitted). NEPA does not contain substantive environmental standards but instead establishes procedural requirements designed to ensure that agencies take a "hard look" at the environmental consequences of their actions. *Id.*

Under the NFMA, the USFS must develop land and resource management plans for each unit of the National Forest System. 16 U.S.C. § 1604(a). In de-

veloping such plans, "a systematic interdisciplinary approach to achieve integrated consideration of physical, biological, economic, and other sciences" must be used. The NFMA and regulations promulgated thereunder impose substantive environmental requirements. *See* 36 C.F.R. § 219.12. Each forest plan must also comply with NEPA. 16 U.S.C. § 1604(g)(1).

The Sierra Nevada Framework Plan Amendment (the 2001 Framework) is the relevant NFMA forest plan for the El Dorado National Forest. The 2001 Framework is a comprehensive forest plan that establishes a "comprehensive conservation strategy" for national forests in the Sierra Nevada Mountains, including the establishment of PACs for the California spotted owl, defined as the best available 300 acres of owl habitat surrounding a known or suspected nesting site. *Earth Island Inst. v. U.S. Forest Serv.*, 351 F.3d 1291, 1296 (9th Cir. 2003). Logging within PACs under the 2001 Framework is severely restricted, "generally to the reduction of surface and ladder fuels." *Id.* In addition, the 2001 Framework requires that HRCAs, defined as 1000-acre foraging grounds for the California spotted owl, be maintained surrounding each PAC. *Id.*

In 2004, the 2001 Framework was supplemented by a Final Supplemental Environmental Impact Statement (the 2004 Supplement) that included a revised plan to improve fire prevention and suppression, reduce fuel loads, restore fire-adapted ecosystems, and promote community assistance. The Record of Decision ("ROD") implementing the 2004 Supplement provides that "[s]ite-specific decisions [regarding timber sales] will be made on projects in compliance with NEPA, [the Endangered Species Act], and other environmental laws following

applicable public involvement and administrative appeal procedures."

The El Dorado National Forest is also managed under the El Dorado National Forest Land and Resource Management Plan (the "LRMP"). The LRMP identifies certain bird Management Indicator Species ("MIS") that aid the USFS in establishing objectives for improving habitat and for evaluating the quantity and quality of habitat and species population trends, in accordance with the NFMA.

Both the Power and Freds Project must conform with the 2001 Framework, the 2004 Supplement, and the LRMP, each of which must in turn comply with NEPA and the NFMA. The USFS identified four key goals for the two post-fire restoration projects:

> (1) to reduce long-term fuel loading in order to reduce future fire severity and resistance to control; (2) improve roads and establish effective ground cover in severely burned areas to reduce erosion and sedimentation to streams in the short term, and to contribute to long term soil productivity; (3) recover the economic value of timber killed or severely injured by the fire, in an expeditious manner, for the purpose of generating funds to offset the cost of future restoration activities; and (4) reduce safety hazards to the public and forest workers.

Freds Fire Restoration, 69 Fed. Reg. 77,175-02 (Dec. 27, 2004).

In furtherance of the third goal, the Power Project was divided into six timber sales. One of these, the East Panther sale, was awarded to SPI, which contracted to remove dead trees from 1,363 acres of the Power Fire

area. The Freds Project was divided into two sales. One of these, the Fred Fire Salvage sale, was also awarded to SPI, which contracted to remove dead trees from 1,363 acres of the Freds Fire area.

A Notice of Intent to prepare an Environmental Impact Statement for the Power Fire was published in the Federal Register on December 22, 2004, and for the Freds Fire on December 27, 2004. Power Fire Restoration, 69 Fed. Reg. 76,686-01 (Dec. 22, 2004); Freds Fire Restoration, 69 Fed. Reg. 77,175-01 (Dec. 27, 2004). After a comment period, Draft Environmental Impact Statements were published in the Federal Register on March 25, 2005. Environmental Impact Statements; Notices of Availability, 70 Fed. Reg. 15,315-01 (Mar. 25, 2005).

On June 16, 2005, the Forest Supervisor for the El Dorado National Forest, John Berry, requested an Emergency Situation Determination from the Regional Forester pursuant to 36 C.F.R. § 215.10. According to the request, "substantial loss of economic value to the Federal Government will occur if implementation of the [Record of Decision] were delayed. Loss of economic value will in turn jeopardize the implementation of the project[s] resulting in long term consequences to the environment." The request noted that with an Emergency Determination, RODs for the two projects could be issued as early as August 1, 2005, but without such a determination, the RODs might not be issued until the end of October. A delay would have the consequence of postponing large portions of the logging operations until summer 2006.

Such a delay would cause deterioration of the timber to be salvaged, which would thereby reduce USFS's

revenues from those sales. The Forest Supervisor anticipated that the loss from delay would be $11.3 million for the Power Project and $800,000 for the Freds Project. On July 1, 2005, the Regional Forester granted the requests for Emergency Situation Determinations for both Projects.

On July 1, 2005, the USFS issued FEISs for both Projects. Both FEISs used mortality guidelines to predict which trees will eventually die from their fire-related injuries, and which trees should therefore be logged. The guidelines are based on a draft study by Sharon M. Hood, Sheri L. Smith, and Daniel R. Cluck (the Hood Study). The Hood Study estimated the probability of mortality for different tree species based, according to the study, "on an analysis of the largest dataset available in terms of numbers of trees and species from wild-fires in California."

On August 1, 2005, the final RODs for both projects were issued. The Power ROD chose Alternative Four; the Freds ROD chose Alternative One. Both RODs stated that the risk of cutting trees that would otherwise survive is mitigated by relying upon the data contained in the Hood Study, which provides models "that allow managers to select the desired level of predicted mortality based on land management objectives." Among the stated reasons put forth for having chosen Alternatives Four and One was the fact that each Alternative would generate the greatest revenue for the USFS: $19,056,425 for the Power Project, and $3,345,872 for the Freds Project.

Earth Island brought suit in federal district court seeking a preliminary and permanent injunction against the implementation of the Power and Freds Projects.

On August 18, 2005, the district court granted Earth Island's motion for a Temporary Restraining Order ("TRO") pending that court's determination of whether a preliminary injunction should issue. On August 25, 2005, the district court vacated its August 18 TRO and denied Earth Island's motion for a preliminary injunction.

In this expedited appeal, Earth Island argues that the district court (1) applied an erroneous legal standard for preliminary injunctions by requiring a showing of significant irreparable harm; (2) applied an erroneous legal standard to Earth Island's claim that the USFS failed to ensure scientific integrity in its tree mortality guidelines; (3) erred as a matter of law by concluding that both FEISs met NEPA's requirement that they take a "hard look" at the adverse effects of the projects on the California spotted owl; (4) erred as a matter of law by concluding that the USFS did not violate the NFMA by failing to conduct population surveys of certain MIS bird species; (5) erred as a matter of law by concluding that Earth Island had not shown the possibility of irreparable harm to the California spotted owl and certain bird species; and (6) erred as a matter of law by concluding that the balance of hardships did not tip in Earth Island's favor. On September 15, 2005, Earth Island filed an emergency motion for an injunction pending appeal with this court, which was denied by a motions panel on September 22, 2005. After oral argument, we *sua sponte* reconsidered our September 22 denial and, in an order filed January 11, 2006, issued an injunction pending the issuance of this opinion.

We have jurisdiction pursuant to 28 U.S.C. § 1291(a)(1). We now reverse the decision of the district

court and hold that Earth Island has met the requirements for a preliminary injunction. We remand to the district court for further proceedings consistent with this opinion.

II. Standard of Review

A district court's decision granting or denying preliminary injunctive relief may be reversed only if the court abused its discretion. *See Harris* v. *Bd. of Supervisors*, 366 F.3d 754, 760 (9th Cir. 2004); *Earth Island*, 351 F.3d at 1298. A court abuses its discretion if it based its decision on an erroneous legal standard or clearly erroneous findings of fact. *Earth Island*, 351 F.3d at 1298. We review findings of fact for clear error and conclusions of law de novo. *See Hawkins v. Comparet-Cassani*, 251 F.3d 1230, 1239 (9th Cir. 2001); *Brown v. Cal. Dep't of Transp.*, 321 F.3d 1217, 1221 (9th Cir. 2003). We "typically will not reach the merits of a case when reviewing a preliminary injunction . . . . By this we mean we will not second guess whether the court correctly applied the law to the facts of the case, which may be largely undeveloped at the early stages of litigation. As long as the district court got the law right, it will not be reversed simply because the appellate court would have arrived at a different result if it had applied the law to the facts of the case." *Earth Island Inst.*, 351 F.3d at 1298(quoting *Rucker v. Davis*, 237 F.3d 1113, 1118 (9th Cir. 2001) (en banc)).

We view Earth Island's challenges through the lens of the Administrative Procedures Act ("APA"). Under the APA, agency decisions may be set aside only if "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A). Review under this standard is narrow, and the reviewing

court may not substitute its judgment for that of the agency. *See U.S. Postal Serv. v. Gregory*, 534 U.S. 1, 6-7, 122 S. Ct. 431, 151 L. Ed. 2d 323 (2001). The agency, however, must articulate a rational connection between the facts found and the conclusions reached. *Midwater Trawlers Co-op v. Envtl. Def. Ctr.*, 282 F.3d 710, 716 (9th Cir. 2002). We reverse under the arbitrary and capricious standard only if the agency has relied on factors that Congress has not intended it to consider, has entirely failed to consider an important aspect of the problem, or has offered an explanation for that decision that runs counter to the evidence before the agency or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise. *See Sierra Club v. U.S. Envtl. Protection Agency*, 346 F.3d 955, 961 (9th Cir. 2003), *amended by* 352 F.3d 1187 (9th Cir. 2003).

III. Mootness

In light of the extensive logging that has already taken place pursuant to the Power and Freds RODs, we asked the parties to advise us whether this appeal may have become moot. The USFS concedes that this appeal is not moot with respect to the Power Project. For the Power Project, the USFS reported that 100% of the timber harvest has been completed for the East Panther and Camp Creek sales, but that only 77% of harvesting has been completed on the Cole Creek sale, only 73% has been completed for the Ellis sale, only 29% has been completed for the Bear River sale, and only 15% has been completed for the Rocky Knob sale. The USFS indicated that due to winter weather conditions, logging operations on the uncompleted projects has now ceased but are expected to resume during the spring of 2006.

According to the USFS, as of January 5, 2006, the timber harvesting that had been authorized for the Freds Project was completed, and it was expected that all harvested timber would be removed from the land and transported to mills by January 9, 2006. However, Earth Island argues that even if current logging operations have been completed for the Freds Project, the logging sales contracts were issued for a term of two years, meaning that SPI has a continuing right to cut trees that meet the tree mortality guidelines contained in the FEIS.

"A case becomes moot whenever it loses its character as a present, live controversy of the kind that must exist if we are to avoid advisory opinions on abstract propositions of law . . . [T]he question is not whether the precise relief sought at the time of the application for an injunction was filed is still available. The question is whether there can be any effective relief." *Cantrell v. City of Long Beach*, 241 F.3d 674, 678 (9th Cir. 2001) (internal quotations and alterations omitted). In *Neighbors of Cuddy Mountain v. Alexander*, 303 F.3d 1059 (9th Cir. 2002), we concluded that challenges brought under NEPA and the NFMA were not moot simply because logging operations had already been completed. There, we noted that remedial measures continued to be available. For example, the USFS could still study and mitigate the impact of the sales on species viability, adjust future timber sales to compensate for the allegedly unlawful sale, and directly monitor bird population trends. *Id.* at 1066. In *Cantrell*, we evaluated mootness under NEPA and concluded that although historic buildings with important bird habitats had already been torn down, the defendants in that case could still consider alternatives and develop ways to

mitigate the damage to the birds' habitat. *Cantrell*, 241 F.3d at 678-79.

Similarly, we conclude in this case that the completion of current logging operations in the Freds Fire area does not render the controversy about the Freds Project moot. Not only is it possible that SPI might cut more trees. In addition, as in *Neighbors of Cuddy Mountain* and *Cantrell*, there are a variety of measures that could provide some effective relief, including revising the tree mortality guidelines, monitoring of the California spotted owl, and obtaining more accurate population surveys of MIS bird species.

IV. Preliminary Injunction Standard

Earth Island seeks to enjoin logging operations in the Power and Freds Project areas until its NFMA and NEPA claims are adjudicated in federal court. It argues that the district court applied an erroneous legal standard by requiring something beyond the "possibility of irreparable harm" when it denied Earth Island's request for a preliminary injunction. Specifically, Earth Island points out that in analyzing the USFS's obligation to monitor certain woodpecker species, the district court found that "immediate and irreparable" injury had not been shown. With respect to the California spotted owl, the district court did not discuss harm at all; instead, it simply concluded that Earth Island had shown no probability of success on the merits.

A district court "necessarily abuses its discretion when it bases its decision on an erroneous legal standard or on clearly erroneous findings of fact." *Rucker v. Davis*, 237 F.3d 1113, 1118 (9th Cir. 2001) (en banc), *rev'd on other grounds, Dep't of Hous. & Urban Dev. v. Rucker*, 535 U.S. 125, 122 S. Ct. 1230, 152 L. Ed. 2d 258

(2002). In this case, we conclude that the district court applied an improper legal standard when assessing whether a sufficient level of injury had been shown.

We recently had occasion to pass upon the proper legal standard governing preliminary injunctive relief in a case involving the same parties, the same district court judge, and a very similar set of facts. *Earth Island*, 351 F.3d 1291. In that case, Earth Island sought a preliminary injunction against logging operations provided for in the USFS's Star Fire Restoration Project after the 2001 Star Fire in the Sierra Nevadas. *Id.* at 1295. We identified two sets of criteria for preliminary injunctive relief. Under the "traditional" criteria, a court may grant a preliminary injunction if a plaintiff shows "(1) a strong likelihood of success on the merits, (2) the possibility of irreparable injury to plaintiff if preliminary relief is not granted, (3) a balance of hardships favoring the plaintiff, and (4) advancement of the public interest (in certain cases)." *Id.* at 1297 (internal quotations omitted). Alternatively, a court may grant a preliminary injunction if a plaintiff "demonstrates *either* a combination of probable success on the merits and the possibility of irreparable harm *or* that serious questions are raised and the balance of hardships tips sharply in his favor." *Id.* at 1298 (internal quotations omitted).

In *Earth Island*, we held that the district court had applied an improper legal standard by requiring that Earth Island demonstrate "actual harm . . . as opposed to speculation that some such harm could possibly occur." *Id.* In that case, the district judge noted that Earth Island had "failed to show that measures already in place . . . will not afford sufficient protection" and that Earth Island had "failed to identify any concrete

probability of irreparable harm in any other respect." *Id.* We concluded that "[e]ach of these statements places a higher burden of proof on the plaintiff than is warranted." *Id.* We emphasized that a preliminary injunction "only requires plaintiffs to show *probable* success on the merits and the *possibility* of irreparable harm." *Id.*

In its August 25, 2005 order in this case, the district judge stated, correctly, that in order to prevail on a motion for a preliminary injunction, a party must demonstrate either "(1) a combination of probable success on the merits and the possibility of irreparable harm; or (2) that serious questions are raised and the balance of hardships tips sharply in favor of granting the requested injunction." However, the district judge continued, stating that under either standard, a party must show a "significant threat of irreparable injury." During the hearing, the district judge stated that "even if there is shown to be a probability of success on the merits by the plaintiffs, the plaintiffs have not shown at this time that there is a significant threat of irreparable injury by clear and convincing evidence, which is the standard."

The USFS argues that the district court applied the appropriate legal standard as set forth in our decision in *Oakland Tribune, Inc. v. Chronicle Publ'g Co.*, 762 F.2d 1374 (9th Cir. 1985), because the words "significant threat of irreparable injury" are not the equivalent of the "concrete probability of irreparable harm" standard we held to be erroneous in *Earth Island*. While it is true that "significant threat" and "concrete probability" are different words, what matters is that both standards impose a higher burden of proof on Earth Island by going beyond the "mere possibility of irreparable harm"

standard. In *Oakland Tribune*, we first determined that the plaintiff had shown a very low likelihood on the success of the merits of its claim, thereby justifying the higher standard of harm. Here, the district court applied the higher standard from the outset without first determining the probability of Earth Island's success on the merits.

We conclude that the district court applied an erroneous legal standard. As we discuss below, we conclude that Earth Island has shown a "strong likelihood of success on the merits," and has also satisfied the other criteria of degree of injury, balance of hardships, and advancement of the public interest.

V. Discussion

A. Likelihood of Success on the Merits of Earth Island's NEPA Challenges

NEPA's procedural requirements require agencies to take a "hard look" at the environmental consequences of their actions. A hard look includes "considering all foreseeable direct and indirect impacts." *Idaho Sporting Cong. v. Rittenhouse*, 305 F.3d 957, 973 (9th Cir. 2002). In addition to direct and indirect impacts, NEPA also requires that agencies assess the cumulative impacts of their actions, defined as the "incremental impact of the action when added to past, present, and reasonably foreseeable future actions." 40 C.F.R. § 1508.7.

A hard look should involve a discussion of adverse impacts that does not improperly minimize negative side effects. *Native Ecosytems Council v. U.S. Forest Serv.*, 428 F.3d 1233, 1241 (9th Cir. 2005). Thus, the USFS must "undertake a thorough environmental analysis before concluding that no significant environmental

impact exists." *Id.* at 1239 (internal quotations omitted). We review whether the USFS has taken a hard look under the arbitrary and capricious standard. When reviewing the adequacy of an FEIS's hard look, we follow a "rule of reason" approach, which requires "a pragmatic judgment whether the [FEIS's] form, content and preparation foster both informed decision-making and informed public participation." *Native Ecosystems Council v. U.S. Forest Serv.*, 418 F.3d 953, 960 (9th Cir. 2005); *see also Dep't of Transp. v.* Public Citizen, 541 U.S. 752, 767, 124 S. Ct. 2204, 159 L. Ed. 2d 60 (2004).

Under NEPA, "[a]gencies shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements. They shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement." 40 C.F.R. § 1502.24. Agencies have wide discretion in assessing scientific evidence, but they must "take a hard look at the issues and respond[ ] to reasonable opposing viewpoints." *Earth Island*, 351 F.3d at 1301. "Because analysis of scientific data requires a high level of technical expertise, courts must defer to the informed discretion of the responsible federal agencies." *Id.* "When specialists express conflicting views, an agency must have discretion to rely on the reasonable opinions of its own experts, even if a court may find contrary views more persuasive. At the same time, courts must independently review the record in order to satisfy themselves that the agency has made a reasoned decision based on its evaluation of the evidence." *Id.* (quoting *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 378, 109 S. Ct. 1851, 104 L.Ed.2d 377 (1989)). If an agency has failed to make a reasoned

decision based on an evaluation of the evidence, we may properly conclude that an agency has acted arbitrarily and capriciously. *Id.* at 1301.

The primary purpose of an FEIS is to allow for informed public participation and informed decision making. *See Native Ecosystems*, 418 F.3d at 965. In furtherance of this purpose, 40 C.F.R. § 1502.8 requires that FEISs "be written in plain language and may use appropriate graphics so that decisionmakers and the public can readily understand them." As we have interpreted this regulation, an FEIS "must be organized and written so as to be readily understandable by governmental decisionmakers and by interested non-professional laypersons likely to be affected by actions taken under the [FEIS]." *Or. Envtl. Council v. Kunzman*, 817 F.2d 484, 494 (9th Cir. 1987).

1. NEPA Challenges to FEISs' Analyses of Logging Activities

Earth Island challenges various aspects of the analyses of logging contained in the two FEISs. Most significantly, it challenges the analysis of tree mortality and the use of the proposed mortality guidelines contained in the Power and Freds FEISs. It also challenges the FEISs' conclusions that there is a lack of adequate soil cover in the project areas, and that the retention of large snags (dead trees) would result in a hazardous level of surface fuels.

a. Tree Mortality Guidelines

Earth Island argues that the FEISs' guidelines for cutting burned and scorched trees substantially over-predict tree mortality, with the result that many more trees will be cut than are necessary to meet the

legitimate objectives of the Power and Freds Projects. Earth Island argues that by cutting many trees that will not die, the USFS will unnecessarily destroy valuable habitat for the California spotted owl and certain MIS bird species.

The tree mortality guidelines contained in the FEISs are based upon the 2005 draft Hood Study. That study predicts post-fire mortality for trees burned or scorched in forest fires. The guidelines for both projects are keyed to the percentage of the tree's green crown that has been scorched by the fires.

Based on data contained in the Hood Study, the USFS chose two different marking guidelines, one for areas to be logged by tractor and one for areas to be logged by helicopter or skyline. Table 3-5 of both of the FEISs is entitled "Mortality Guidelines for marking as applied to [various alternatives]." For simplicity of explanation, we will describe the guidelines only as they apply to yellow pine and white fir, and only as to helicopter and skyline logging. Yellow pine with 65% or more of the length of their crown scorched are considered dead, and are to be marked for cutting. The same crown length scorch percentages apply to white fir over 20" in diameter.

For the convenience of the reader, we reproduce Table 3-5:

	PP/JP/SP [yellow pine]	White Fir <20"	White Fir >20"	Incense Cedar	Red Fir	Douglas Fir
Tractor Logging System						
Crown Scorch*	75%	95%	80%	100%	?	?
Crown Scorch + RTB or Ambrosia Beetle	?					
Helicopter and Skyline Logging Systems						
Crown Scorch*	65%	85%	65%	95%	?	?
Crown Scorch + RTB or Ambrosia Beetle	?					

* As a percentage of the original live crown. Percentage of green foliage would not be used for ponderosa or Jeffrey pine until the 2005 needle flush is visible. Any marking prior to needle flush would be limited to pines with 100% black crown.

Table 3-6 of the FEISs is entitled "Probability of Tree Mortality." Both FEISs state, "Table 3-6 indicates the probability of tree mortality to individual trees meeting the Power [and Freds] Fire marking guidelines (Correctly Predicted Mortality) and the predicted survival of trees with less fire damage than the minimum requirements of the marking guidelines (Correctly Predicted Survival)." According to Table 3-6, a yellow pine cut in accordance with the 65% crown length scorch guideline of Table 3-5 has a 90% "Correctly Predicted Mortality." A white fir over 20" in diameter cut in accordance with the guidelines has a 87% "Correctly Predicted Mortality."

For the convenience of the reader, we reproduce Table 3-6. We have italicized the numbers 90 and 87 to indicate the "correctly predicted mortality" percentages for yellow pine and white fir cut in accordance with the 65% crown length scorch guideline:

	PP/JP/SP [yellow pine]	White Fir	Incense Cedar	Red Fir	Douglas Fir
Tractor Logging System					
Correctly Predicted Mortality (%)	96	95	100	100	—
Correctly Predicted Survival (%)	51	63	88	—	—
Helicopter and Skyline Logging Systems					
Correctly Predicted Mortality (%)	*90*	*87*	85	100	—
Correctly Predicted Survival (%)	65	74	89	—	—

Earth Island contends that the findings contained in the draft Hood Study, as well as in other studies, have substantially different percentage estimates of tree mortality from the percentages contained in Table 3-6. Earth Island relies upon the declaration of Dr. Edwin B. Royce in support of its contention. Royce has a Ph.D. in Botany with a specialization in Forest Plant Ecology from the University of California at Davis, and a Ph.D. in Applied Physics from Harvard University. Royce has had twelve years of experience in the characterization of forest vegetation.

The USFS challenges the admissibility of Royce's declaration, as well as other expert declarations offered by Earth Island, because they were not before the agency during the administrative review process. We allow extra-record materials if necessary to "determine whether the agency has considered all relevant factors and has explained its decision." *Sw. Ctr. for Biological Diversity v. U.S. Forest Serv.*, 100 F.3d 1443, 1450 (9th Cir. 1996). Because Earth Island's expert declarations are offered for this purpose, they were properly before the district court and are properly before this court on review.

According to Royce, yellow pine and white fir are both "thick bark trees" whose bark provides significant protection of the living tissue beneath the bark. According to Royce, "[c]rown kill is commonly the dominant source of fire-induced mortality in large trees having thick bark, such as white fir or yellow pine." However, "[f]all fires, such as the Power and Fred's fires, are least damaging to conifers. In part this is because reserves of stored products of photosynthesis are high and because new growth throughout the trees is less vulnerable to damage then, as compared to that same growth during the summer growing season." "A low-intensity surface fire commonly produces only partial crown kill and only minimal mortality in larger trees. Trees tolerate partial crown kill in a surface fire in part because only the lower part of the crown is normally killed. The lower part of the crown is less photosynthetically productive than is the upper part."

For yellow pine, Royce states, "[t]he mortality guidelines for yellow pine (ponderosa and Jeffrey pine) will permit the harvest of trees with a substantial

probability of surviving if they were not harvested." The Royce declaration contains tables showing predicted tree mortality in the Hood Study, as well as in three other studies. Those other studies were by Ryan and Reinhardt, by Stephens and Finney, and by McHugh and Kolb. Royce states as to yellow pine, "[f]or helicopter and skyline logging, mortalities from the[Hood Study] models are 60% and 70%, as compared to a 90% mortality claimed in the FEIS and ROD." Mortalities predicted by the three other studies are even more at variance from the mortality predicted in the FEISs. Royce states,

> [T]he guidelines for helicopter and skyline logging will allow the cutting of small trees that have probabilities of mortality between 12% and 57% and large trees with mortality probabilities between 11% and 32% (compared with 90% mortality claimed by the FEIS's). Even if one accepts only the largest of the probabilities of mortality—that given by the Ryan and Reinhardt paper—this still translates into *a worst case probability of survival of up to 68% for trees that could be cut (meaning 68% of the trees logged would otherwise survive).* (emphasis in original.)

In addition, Royce states that he personally evaluated 39 yellow pine that were part of the data base for the Hood Study, and "found evidence of measurement errors that would lead to the development of models that over predict mortality." According to Royce,

> I measured the average amount of crown kill on these trees to be 88%, whereas, the [Hood Study] field workers evaluated the same damage to average 64%. A small part of this difference may be due to the fact that my measurements were crown volume measure-

> ments, whereas, the [Hood Study] measurements were linear measurements. However, as discussed [earlier in my declaration], this should produce only a few percent difference between the two measurements. I suggest that at least a substantial part of the difference between the two measurements is a result of the [Hood Study] field workers underestimating crown kill. This will result in a model that over predicts mortality when correct crown kill values are used. A corrected [Hood Study] model yielding lower mortality predictions would make the proposed guidelines even less defensible.

For white fir, Royce states, "[t]he mortality guidelines for large white fir will permit the harvest of trees with a substantial probability of surviving if they were not harvested." As he does for yellow pine, Royce presents tables showing predicted tree mortality in the Hood Study, as well as in the three other studies. He states as to white fir, "[f]or the helicopter and skyline logging of large trees, mortalities from the[Hood Study] models are between 25% and 45%, as compared to an 87% mortality claimed in the FEIS and ROD." Just as with yellow pine, mortalities predicted by the three other studies are even more at variance from the mortalities predicted in the FEISs. Royce states,

> the guidelines for helicopter or skyline logging will allow the cutting of large trees with mortality probabilities between 7% and 50%, as compared to the 87% mortality claimed in the FEIS's. Even if one accepts only the largest of these predictions of mortality—that given by the Ryan and Reinhardt paper—this still translates into *a worst case probability of survival (in helicopter units) of up to 50% for trees that could be cut.* (emphasis in original).

In response, the USFS relies on a declaration of Sheri L. Smith. Smith is one of the three co-authors of the draft Hood Study. She has B.S. and M.S. degrees in Biology and Entomology from Utah State University. She has been an USFS employee for 15 years. She has been "involved in evaluating fire-injured trees in California since 1991."

Smith makes three points in response to the Royce declaration. First, she contends that Royce misunderstood Table 3-6. As noted above, that table is entitled "Probability of Tree Mortality." Royce understood the percentages contained in that table as indicating the probability that a tree will die. For example, Table 3-6 indicates that a yellow pine with a minimum of 75% scorched crown (the guideline for tractor logging) has a "correctly predicted mortality" of 96%, and a "correctly predicted survival" of 51%. Royce understood the table to mean that 96% of yellow pine with a minimum of 75% scorched crown will die.

Smith responds,

> The marking guidelines used for the Power and Freds fire are based on models that use percent crown kill . . . . I attach a true and correct copy of an excerpt of the models which are the basis for the Power and Freds marking guidelines (Attachment A).
>
> Mr. Royce states that Table 3-6 represents that 96% of trees with 75% crown kill will die. This is simply incorrect. The 96% in Table 3-6 (classification table) shows that the marking guideline model used by the Forest Service is correct in predicting mortality 96% of the time when our individual study trees are run through the model. In other words, the 96% is an estimate of the accuracy of the model, not of the

percentage of mortality as Mr. Royce states. Both FEISs accurately interpret the findings of our paper in light of the specific marking guideline model selected by the Forest Service.

The percentages shown in Table 3-6 (classification table) of both the Power and Freds FEIS are derived from the entire [Hood Study] dataset, which, for yellow pine, is based on measurements of 1,969 trees. The models in our paper take these percentages to arrive at a statistical probability of mortality for an individual tree. The probability of mortality (Pm) ranges from 0.0 to 1.0, with 1.0 being certain mortality. The Forest Service selected a Pm of 0.90 for all ground-based harvest units. For yellow pine, a Pm of 0.90 corresponds to a crown length kill of 75%. Using this criterion, the marking guideline model correctly predicted mortality for yellow pine trees in the [Hood Study] dataset 96% of the time and correctly predicted survival 50% of the time. In other words, using a Pm of 0.90 (75% crown kill), only 4% of the trees the model predicts will die, actually survived, but 50% of the trees predicted to survive eventually died. . . .

This means that there is a high likelihood of correctly predicting mortality, but a lower likelihood of correctly predicting survival using the 75% crown scorch model, *which means that it is much more likely that the Forest Service is leaving trees behind that will later die, than it is taking trees that would have survived.* This is directly contrary to Mr. Royce's assertions [.] . . . The same misinterpretation of the data is true for Mr. Royce's discussion of yellow pine on helicopter and skyline harvest units

> and all white fir, all of which misinterpret the percentages in Table 3-6 to be something other than what they are—a verification of the accuracy of the marking guideline model using the [Hood Study] dataset.

(emphasis in original).

Second, Smith responds that Royce estimated the probability that a tree will die based on the percentage *volume* of crown kill. By contrast, the Hood Study estimated the probability based on the percentage *length* of crown kill. Therefore, according to Smith, Royce's comparisons are "problematic."

Third, Smith responds that two of the three other studies upon which Royce relies for his comparison—the studies of Stephens and Finney, and of McHugh and Kolb—are based on "prescribed fires." According to Smith, "[m]ost often, the objective of a prescribed fire is to limit the mortality of the overstory while reducing fuel loadings and ingrowth of smaller trees. Our model is more appropriate to the type of fire represented by the Freds and Power fires, which killed not only the ingrowth of smaller trees, but also resulted in high levels of crown kill of larger trees."

We analyze Smith's three points in turn. First, Smith contends Royce has misunderstood Table 3-6. According to Smith, the percentage figures given for "correctly predicted mortality"—such as 96% for yellow pine with a minimum of 75% crown length scorch—do not predict the percentage of trees that will die. Rather, these figures predict the accuracy of the prediction of the percentage of these trees that will die. Similarly, according to Smith, the percentage figures for "correctly predicted survival"—such as 51% for yellow pine

with a minimum of 75% crown length scorch—do not predict the percentage of trees that will live. Rather, they predict the accuracy of the prediction of the percentage of these trees that will live. Smith may well be correct. Indeed, it appears from the face of Table 3-6 that she may be, for if the table predicted the percentage of trees that will die or live, as distinct from predicting the accuracy of the predictions of these percentages, the percentages given in the table should add up to 100%. Instead, in the example given for yellow pine with 75% crown length scorch, they add up to 147% (96% plus 51%).

But even if Smith is correct, this does not solve the problem. Table 3-6 is, to say the least, misleading. Its title is "Probability of Tree Mortality," rather than "Probability that Predictions of Probability of Tree Mortality and Survival are Correct." Second, there is no *other* table in the FEISs providing the probability of tree mortality. The absence of such a table is significant. The single most important aspect of the FEISs is their estimate of the likelihood that trees with certain amounts of fire damage will die. This is so for the obvious reason that the justification for cutting burned or scorched trees is the likelihood that they will die. Any reader of the FEISs will therefore look for a table providing probability of tree mortality. The only table in the FEISs that appears to provide that information is Table 3-6. It is not unforeseeable that a reader—even an expert reader such as Royce—would misunderstand the table. Further, the explanation for Table 3-6 provided by Smith's declaration in the district court is nowhere provided in the FEISs. For example, Attachment A to Smith's declaration is not provided, or even referred to, in the FEISs. The absence of such an

explanation in the FEISs obviously increases the chance that the table will be misunderstood.

Further, the Royce declaration provides tree mortality percentages given in the draft Hood Study, and he compares those percentages to those given in Table 3-6. The Hood Study percentages provided by Royce are not contested by Smith. (This is not surprising, given that Smith is a co-author of the Hood Study.) The Hood Study mortality percentages are substantially lower than the percentages given in Table 3-6. Yet those percentages are not provided in the text of the FEISs. If the USFS had been truly interested in educating the reader as to the actual percentages of trees likely to die from scorch damage, it would have provided those percentages in the FEISs. Instead, it provided Table 3-6 (entitled "Probability of Tree Mortality") giving percentages of "correctly predicted mortality." Even if the USFS could properly rely on the draft Hood Study instead of other tree mortality studies—a question we do not here decide—it should have provided the mortality percentage figures in the Hood Study rather than, or in addition to, the figures in Table 3-6.

Second, Smith responds that the comparisons used by Royce to estimate tree mortality are based on percentage *volume* of crown kill rather than percentage *length* of crown kill. We note initially that Smith's response has no application to the comparison between the percentage numbers given in Table 3-6 and those given in the Hood Study. Both Table 3-6 and the Hood Study were based on the same methodology—correlating percentage length of crown kill with likelihood of tree death. Further, we note that with respect to studies

that relied on percentage volume rather than percentage length of crown kill, Royce had explained in his declaration why the FEISs' emphasis on the difference in the two type of crown kill measurements is misleading. He wrote:

> Tables 3-4 in both the Power and Fred's fire FEIS's show a relationship between these two measures of crown kill in which the volume measure is much larger than the linear measure for the same amount of damage. However, these tables are valid only for young trees with a tapered shape, similar to the classic conical Christmas tree shape shown in figure F-1 of the Powers FEIS or figure A-1 of the Fred's FEIS. Large, mature trees growing in a forest surrounded by other trees have a shape more like a cylinder, tapered only in the topmost branches. . . . It is to mature trees that the guidelines [in the FEIS's] are to be applied to determine if the trees are dying and hence subject to salvage harvest. In the context of the salvage of mature trees, the inclusion of these tables and figures in the FEIS's is completely misleading.
>
> My experience measuring mature trees on the Eldorado-Star fire site . . . was that, within the uncertainty with which these determinations can be made in the field, the two measures give the same numerical value for crown kill.

Third, Smith responds that two of the three other studies used by Royce for comparison were based on "prescribed fires." According to Smith, reliance on these two studies—the Stephens and Finney study and the McHugh and Kolb study—was inappropriate because the Power and Freds Fires "resulted in high

levels of crown kill of larger trees" compared with the levels of crown kill in the prescribed fires. It may well be that, as Smith says, the prescribed fires resulted in lower levels of crown kill in larger trees. But Smith does not explain why that makes a difference. As those two studies are described by Royce, they predict tree mortality based on the actual percentage of crown kill in particular trees. The fact that fewer trees have that degree of crown kill in a prescribed fire should not make any difference in the predicted mortality of those trees that actually have a high level of crown kill.

Further, Smith does not mention the third study upon which Royce relies—the Ryan and Reinhardt study. Of the three studies, this one gives the highest probability of tree mortality. Royce explicitly discusses and relies on the Ryan and Reinhardt study in his conclusion that the FEISs overpredict tree mortality. For example, as indicated above, Royce writes with respect to yellow pine, "[e]ven if one accepts only the largest of these probabilities of mortality—that given by the Ryan and Reinhardt paper—this still translates into a worst case probability of survival of up to 68% for trees that could be cut[.]"

We recognize that the FEISs discount two of the studies—those by Stephens and Finney and by Ryan and Reinhardt. The Power and Freds FEISs both discount the Stephens and Finney study on the ground that its purpose was not to provide salvage guidelines, and that some of its data were obtained pre-rather than post-fire. The Powers FEIS discounts the Ryan and Reinhardt study as involving only one of the species (Douglas fir) that occurs in the Power Fire area. The Freds FEIS discounts that study in slightly different

terms, stating, "[r]esults from the Ryan and Reinhardt 1988 study were obtained mostly for tree species not found in, and geographic regions not related to, the Sierra Nevada." But even if we must discount both of these studies—a question we do not decide—the McHugh and Kolb study remains. That study was not discussed, or discounted, in either of the FEISs.

In the end, we conclude that the USFS abused its discretion in its estimates of likely tree mortality in both the Power and Freds FEISs. We will assume, for purposes of our analysis, that the Smith declaration correctly states what the percentage numbers in Table 3-6 really mean. But even if the Smith declaration is correct, Table 3-6 is, for the reasons given above, extremely misleading. A casual, or even a careful, reader of the FEISs and of Table 3-6 could easily conclude that 96% of yellow pine with a minimum of 75% crown length scorch will die, or that 90% with a minimum of 65% crown length scorch will die. If those were, in fact, the percentages of yellow pine with that degree of fire damage that will die, it would be easy to conclude that the USFS is justified in cutting all yellow pine that satisfy those criteria. But those are not the percentages of trees that will die.

The Hood Study itself estimates a substantially lower tree mortality than the percentage numbers provided in Table 3-6. The other three studies estimate even lower tree mortalities. It is possible that those who prepared the FEISs, and the Forest Supervisor who signed the RODs based on the FEISs, understood Table 3-6 in the way Royce understood it. If this is so, the USFS abused its discretion, for it failed to take the requisite "hard look" at the data underlying their analysis and decision.

Kern, 284 F.3d at 1066. It is also possible that those who prepared the FEISs, and the Forest Supervisor, understood Table 3-6 in precisely the way Smith described it in her declaration. If this is so, the USFS also abused it discretion, for it failed to reveal the actual percentages upon which it relied and it drafted highly misleading FEISs. *Native Ecosystems Council*, 418 F.3d at 965. Under the first alternative, the USFS misunderstood the data; under the second, it understood but concealed and misrepresented the data. Under either alternative, it abused its discretion.

b. Soil Cover

Both the Power and the Freds FEISs state that a goal of the restoration projects is to provide effective ground cover as a means of reducing erosion and stream sedimentation. Both FEISs specify that the average soil cover should be between 50% to 60%. The FEISs propose to achieve this amount of soil coverage by using debris from trees that are logged according to the mortality guidelines discussed above—in their words, by using "tops and limbs of dead and dying trees."

According to the Power FEIS, there was an average of 11% to 30% ground cover in areas of moderate-severity burns after the fire. There was an average of 0% to 10% ground cover in areas of high-severity burns. The average projected ground cover after needles scorched by the fire had fallen to the ground was estimated to be 51% to 70% in moderate-severity burn areas, and 20% to 30% in high-severity burn areas. According to the Freds FEIS, there was an average of 17% ground cover in moderate-severity burn areas, and an average of 9% in high-severity burn areas. Following needlecast, the projected ground cover was 46% in

moderate-severity burn areas, and 19% in high-severity burn areas.

Earth Island argues that these figures for soil coverage are based on information obtained in site visits immediately after the fire, and that more recent visits show that effective soil cover already exceeds 50% to 60% in severely burned areas. In support of this argument, Earth Island offers the declaration of Jonathan J. Rhodes. Rhodes has a B.S. in Hydrology and Water Resources from the University of Arizona, and an M.S. in Hydrology and Hydrogeology from the University of Nevada-Reno. He has also finished all required academic work toward a Ph.D. in forest hydrology at the University of Washington. He has had more than twenty-two years of experience as a hydrologist.

Rhodes visited what he described as six high-severity burn areas within the Power Fire area on August 11, 2005. He found that needles, twigs, and branches that had fallen since the fire, as well as new vegetative growth, had increased soil cover substantially. He stated in his declaration:

> I measured soil cover in areas where my visual estimates indicated that soil cover was lowest. Thus, my measurements include those in areas with soil cover that is well below the average within the proposed Power project area as a whole. My measurements and evaluation of soil cover conditions within the areas of the proposed Power logging project unequivocally demonstrate that as of August 11, 2005, soil cover is well-distributed and greater than 60% in the overwhelming majority of areas burned at high severity. In the areas that I measured soil cover, the

> lowest level of soil cover that I measured was 59%; soil cover in the other five areas measured ranged from 66-91%. Even this lowest level of measured soil cover exceeds the 50% target that Power and Freds FEIS state should be exceeded.

Rhodes continued, "[b]ased on conditions within the area, it is unquestionable that soil cover from [conifer regeneration, and needles, branches, and logs from burned trees] will continue to steadily increase over the next several years." He concluded, "there is *not* a pressing need to try to increase soil cover via logging in order to reduce soil erosion. This is especially true because logging always causes increased soil damage and elevated erosion." (emphasis in original).

The USFS responded with a declaration by Jeffrey TenPas. TenPas has a M.S. in Soil Science from the University of California, Davis. He is an employee of the USFS. He has had more than fifteen years of experience in soil science. TenPas assessed soil cover immediately after the Power Fire. He then revisited the Power Fire area on August 19, 2005, after reading the Rhodes declaration. TenPas wrote, "[c]ontrary to Mr. Rhodes findings, portions of the high severity burned areas in the Power Project area have existing ground cover much less than 50%." He suggested that Rhodes might have been examining a "more moderately burned area that received significant needle cast," rather than a high-severity burn area. TenPas stated:

> The pattern of recovery [in the Power Project area] was consistent with expectations. Needle cast had provided adequate ground cover in low and moderate severity burned areas. Bear clover, where it was present, covered an estimated 0 to 70% cover at the

> scale of 200 transects. In high severity burned areas, bear clover was the predominant component in vegetative recovery in areas I visited. Various forbs provided a trace to 5% cover. In high severity burned areas without bear clover, ground cover was as low as 1%, that from a trace of needles.

He concluded, "[i]n sum, my observations indicate that there remain portions of high severity burned areas where soil cover is deficient . . . . Timber harvest can contribute additional cover in these areas."

As in *Earth Island*, we conclude that "[a]t this stage, the record does not allow us to conclude that the Forest Service acted arbitrarily and capriciously in relying on its own data and discounting the alternative evidence offered by the Plaintiffs." *Earth Island*, 351 F.3d at 1302. This is especially so in light of the deference given to the "reasonable opinions of [an agency's] own experts." *Id.* at 1301.

c. Fuel Loading

Both the Power and Freds FEISs state that a goal of the restoration projects is to reduce fuel loading on the ground so as to reduce the risk of future catastrophic fires, and to avoid safety hazards to workers and recreation visitors. Specifically, the Power FEIS rejected an alternative that would have retained four large snags per acre outside PACs for the California spotted owl. The Freds FEIS rejected an alternative that would have retained four to eight large snags per acre outside PACs. Earth Island challenges the FEISs' rejection of these alternatives, arguing that retaining this number of large snags would not impede the goals of reducing long-term fuel loading and safety hazards.

According to the Power FEIS, in areas where four large snags per acre would be retained, fuel levels 25 years after the fire would be approximately 38 to 40 tons per acre. According to the Freds FEIS, in areas where four to eight snags per acre would be retained, fuel loads would be 16 to 50 tons per acre by year 25. The USFS contends that these levels of fuel loading would provide significant fuel, contribute to severe soil heating, and impede effective fire suppression efforts.

As with soil cover, above, we cannot confidently discern from the present record whether Earth Island's contentions about fuel-loading have validity. We therefore cannot say, at this point, that the USFS has acted arbitrarily and capriciously in rejecting the alternatives that would have retained four snags per acre in the Power Fire area and four to eight snags per acre in the Freds Fire area.

2. NEPA Challenge to Analysis of Effects of Logging on California Spotted Owls

Earth Island argues that the USFS has failed to take a "hard look" at the effects of the Power and Freds Projects on the California spotted owl. The California spotted owl was identified as a "species at risk" in the 2001 Framework. "Species at risk are those with a high level of concern whose ranges are not peripheral to the Sierra Nevada and that occur in old forest ecosystems." As reported in the 2004 Supplement, the Fish and Wildlife Service ("FWS") declared in February 2003 that the California spotted owl would not be listed as an endangered species under the Endangered Species Act because there was "no definite evidence that the population is decreasing across its range, and various analytical results of the individual study areas are not

wholly supportive of conclusions regarding declines in any given study area."

However, because changes in the Sierra Nevada Framework could affect the California spotted owl, the FWS has stated that it will continue to monitor the owl. Within the last year, the FWS issued a "90-day finding" under the Endangered Species Act, 16 U.S.C. § 1533(b)(2)(A), as a prelude to a possible determination that the California spotted owl should be listed under the Act. 90-Day on a Petition to List the California Spotted Owl as Threatened or Endangered, 70 Fed. Reg. 35,607 (June 21, 2005). The FWS stated that "the petition presents substantial scientific or commercial evidence that listing the species may be warranted." *Id.* The FWS is currently engaged in a 12-month review of the California spotted owl as required by 16 U.S.C. § 4(b)(3)(B). *Id.* Among the factors prompting the 12 month review was the 2004 Supplement, as well as new evidence concerning the effects of fires on the owls. *Id.* at 35,612.

Under the 2004 Supplement, PACs for California spotted owls must be maintained regardless of actual occupancy by owls. After a stand-replacing event such as a major fire, habitat conditions within a 1.5-mile radius around the PAC must be evaluated in order to identify opportunities for re-mapping a destroyed or diminished PAC. Only if there is insufficient suitable habitat for designating a PAC within this 1.5-mile radius can a PAC be delisted.

Earth Island argues that the FEISs allow for excessive cutting of trees that would otherwise survive in areas used by California spotted owls, do not adequately take into account studies showing the owls' use of

already-burned areas, allow the creation of isolated islands of habitat, and fail to retain sufficient numbers of large snags for use by owls. Earth Island relies upon the declaration of Monica Bond, who has a B.A. in Biology from Duke University and an M.S. in Wildlife Science from Oregon State University. She is the lead author of two peer reviewed studies of the California spotted owl published in 2002 and 2004. Bond contends that the Power and Fred Projects

> will have significant negative effects on the California spotted owl by substantially reducing the amount of potential foraging habitat within the project sites, by a) utilizing inaccurate mortality guidelines (see Declaration of Edwin Royce) which incorrectly categorize some areas withing the Power and Fred's project areas as high-severity burn (and thus unsuitable for owls) when they are in fact live tree areas available to the owl for foraging purposes; b) ignoring significant new scientific information which indicates that spotted owls actually utilize forests burned at even high severities; c) by allowing pockets of forest unburned or burned at low- to moderate severity within a severe burn area to become isolated islands of habitat and reducing their value to the spotted owl; and d) failing to maintain large snags throughout the areas designated to be logged, for recruitment as legacy trees when the forest regenerates in the future. In addition, these projects call for extensive clearcut logging of habitat elements important to spotted owls (large trees and snags) within currently occupied spotted owl Protected Activity Centers ("PACs") and Home Range Core Areas ("HRCAs"). All of these activities will result in the loss of potentially critical foraging grounds that are neces-

sary to maintain the population of California spotted owls in the Eldorado National Forest.

The USFS responds with a declaration by Chuck Loffland, a wildlife biologist employed by the USFS. Loffland does not describe his academic background. He states that he has been conducting surveys of the California spotted owl and performing analyses of effects on the owl since 1989. He concedes that "it appears from the few studies cited by Ms. Bond that owls may use burned habitat to some degree," but that "the scope and duration of that use are not well studied or well understood." He notes that Bond herself states that more scientific study is needed. He states further:

> Ms. Bond claims that most or all of the PACs will be clearcut . . . . This is simply untrue. First, there will be no salvage activity within suitable habitat. For the non-core (unsuitable) portion of PACs within the Power project area, salvage will only remove hazard trees and trees that are dead with 100% crown kill in excess of the 4 largest size class snags per acre retained. This will leave behind 4 large snags/acre and *all* trees that have any green needles and even a remote chance of surviving . . . . Although Ms. Bond characterizes project activity in the PACs as wholly detrimental to the owl, the Forest Service decided to remove dead and hazard trees from non-core PAC areas in order to provide protection against stand-destroying fire. (emphasis in original).

Loffland also disputes some of Bond's characterizations of the logging that will take place within specified PACs.

According to the Power FEIS, there were approximately 5,880 acres of suitable owl habitat before the

Power Fire; this habitat was reduced to 2,750 acres as a result of the fire. Ten PACs were in the Power Fire area before the fire. One was not affected by the fire and no treatment was proposed; one was burned at high and moderate intensity, and the USFS determined that not enough suitable habitat remained to support a PAC; and the boundaries of the remaining eight were redrawn to encompass the best remaining habitat within a 1.5 mile radius of the center of the area. Within seven of these redrawn PACs, the USFS determined that certain areas were unsuitable for spotted owl habitat (deemed "non-core" areas) and that salvage logging in these non-core areas could proceed, but leaving standing the four largest snags (dead trees) per acre. No logging is permitted within the "core," or suitable habitat, areas of any PAC.

An analysis of the direct effects of the Power Project was limited to the area that currently remains suitable for nesting or foraging. Because no logging is allowed in core areas, the Power FEIS notes that any direct effects would be limited to hazard zone areas, meaning roads, power line corridors, and the fire flume. Thus, the potential direct effects were limited to the removal of roadside hazard trees on 295 acres of key habitat within PACs. In addition, the Power Project is estimated to affect 660 acres of the 10,560 total suitable HRCA acres that are within or adjacent to the Power Project area.

In discussing the indirect effects, the Power FEIS states that in high- and moderate-intensity burn areas in HRCAs, the largest 5.8 snags per acre will be retained, but that salvage harvesting will proceed according to the tractor-harvesting mortality guidelines.

The cumulative effects analysis in the Power FEIS focused on logging activities proposed for 540 acres of private land within the Power Fire area and 873 acres of private land outside the area; on a project to thin trees in order to reduce fuel loads; and on the planned replanting of 700 acres of burned plantation areas.

The Power FEIS states that the effect of the Power Project may be to reduce the quality of owl habitat, but that the project would not reduce the overall amount of owl habitat. The Power FEIS predicts that to the extent the Power Project increases future fire resiliency, it may have the effect of increasing the amount of available habitat in the long run. It concludes that there would be no trend resulting in the federal listing of the California spotted owl as an endangered species.

In the Freds Fire area, all or portions of three spotted owl PACs were present before the fire. One PAC burned at high and moderate intensity, and the USFS determined that insufficient habitat remained to support this PAC. The boundaries of the remaining two PACs were redrawn to encompass the best 1.5 miles of habit surrounding the center of the area. The Freds FEIS proposed logging in non-core areas of the redrawn PACs.

According to the Freds FEIS, approximately 3,255 acres of suitable owl habitat existed on both national forest and private land before the Freds Fire. After the fire, only 285 suitable acres remained in areas of low-intensity burn, while approximately 1,848 acres remained in areas of moderate- and high-intensity burn. In addition, some 332 acres of green trees are scattered across the moderate- and high-intensity burn areas.

According to the direct and indirect effects analysis in the Freds FEIS, no logging would take place in core areas within the PACs; no logging would be proposed in areas of low-intensity burn; and hardwoods and green trees would not be harvested in areas of moderate- and high-intensity burn. The FEIS also notes that while the 332 acres of remaining scattered green trees provide some post-fire habitat for the owls, suitability in those 332 acres would "likely be reduced over time as more fire-weakened trees die. Dead trees lose foliage and therefore would reduce canopy closure to levels below what is preferred by owls."

The USFS argues that it adopted a conservative approach to logging in both FEISs in order to ensure that the California spotted owl is protected. It points to the fact that it assumed the presence of owls in PACs pending the completion of surveys. It also argues that it considered the information concerning the owl's use of post-fire habitat and determined that the findings were too inconclusive to affect its impact analysis.

We have elsewhere interpreted the "hard look" requirement as entailing both a complete discussion of relevant issues as well as meaningful statements regarding the actual impact of proposed projects. In *Native Ecosystems Council*, we held that where an EIS used a calculation for determining the summer range of elk herd that was inconsistent with a specific requirement contained in the regional forest plan, the USFS had not taken a hard look because it did not "provide a full and fair discussion of the potential effects of the project . . . and did not inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts [to the elk at issue]." 418

F.3d at 965(internal quotations and alterations omitted). Likewise, in *Klamath-Siskiyou Wildlands Center v. Bureau of Land Management*, 387 F.3d 989, 994-95 (9th Cir. 2004), we held that an environmental assessment ("EA") did not take a "hard look" at the cumulative impacts of a proposed action where the EA had sections devoted to discussing direct, cumulative, and foreseeable actions, but gave no objective or qualified assessment of the combined environmental impacts of the information presented. Most recently, we concluded that where an EIS stated without meaningful explanation that a post-fire salvage project would have a negative impact on black-backed woodpeckers but would not result in a trend toward federal listing, this did not constitute a "hard look." *Ecology Ctr., Inc. v. Austin*, 430 F.3d 1057, 1067 (9th Cir. 2005).

In *Earth Island*, Earth Island claimed that the FEIS for the Star Fire Restoration Project did not adequately analyze the cumulative impact of the project's destruction of an HRCA on the California spotted owl. *Earth Island*, 351 F.3d at 1306-07. While the FEIS in *Earth Island* had acknowledged that spotted owls exhibit "high site fidelity" and that a pair of owls had returned to the project area, it "never assessed the potential role of the remaining suitable habitat within the former HRCA for a maintained [PAC] despite the acknowledged presence of owls in the area." *Id.* at 1307. For this reason, we held that the "omission amounts to an insufficient consideration of cumulative impact under NEPA." *Id.*

We conclude that the Power and Freds FEISs have not taken the requisite "hard look" at the effects of the two projects on the California spotted owl. We con-

cluded above that the FEISs did not adequately analyze probable tree mortality. The likely consequence of the apparent overprediction of tree mortality is excessive logging. This likely excessive logging, in turn, is likely to produce adverse effects on the California spotted owl that are not adequately analyzed in the FEISs.

Further, it is likely that the projects will substantially reduce potential foraging habitat because the FEISs' designation of non-core areas, where logging will occur, is based upon the USFS's determination that because these areas were heavily burned they are not likely to be suitable owl habitat. According to Bond—both in her declaration and in her published work—the California spotted owl uses burned areas for foraging in the short-term, and these areas may also provide important benefits in the long-term.

The FEISs cannot assume that simply because the owl habitat studies are preliminary, the adverse impacts discussed therein will not occur. Rather, the FEISs must respond explicitly and directly to conflicting views in order to satisfy NEPA's procedural requirements. By removing trees that might survive in areas it assumes to be unsuitable for California spotted owl habitat, the FEISs allow logging in what could well be suitable habitat. The FEISs do not explain in any detail how their determinations that habitat was "unsuitable" were made, and do not investigate or analyze how redrawing the boundaries of the PACs and HRCAs might negatively impact the owls. We therefore conclude that the FEISs do not satisfy the requirement under NEPA that the agency take a "hard look" and that there be a "full and fair discussion" allowing informed public participation and informed decision-making.

B. Likelihood of Success on the Merits of Earth Island's Challenge under the NFMA

Earth Island argues that the FEISs' reliance on the Breeding Bird Survey ("BBS") does not satisfy its obligations under the NFMA to conduct population surveys for certain Management Indicator Species ("MIS") bird species. The NFMA requires that a forest plan "comply with substantive requirements of the [NFMA] designed to ensure continued diversity of plant and animal communities and the continued viability of wildlife in the forest . . . ." *Austin*, 430 F.3d at 1063; *see also* 16 U.S.C. § 1604(g)(3)(B). The 2001 Framework identifies certain birds as MIS species, for which increased population monitoring is required. The 2004 Supplement incorporates the 2001 Framework's population-monitoring requirements.

The El Dorado National Forest Land and Resource Management Plan ("LRMP"), as well as both the Freds and Power FEISs, list cavity-nesting birds, including the black-backed woodpecker, hairy woodpecker, and Williamson's sapsucker, as MIS species. An MIS species is a bellwether, or class representative, "for other species that have the same special habitat needs of population characteristics." *Inland Empire Pub. Lands Council v. U.S. Forest Serv.*,88 F.3d 754, 762 n. 11 (9th Cir. 1996). The 2001 Framework states, "[p]opulation and/or habitat monitoring will be conducted for all MIS and species at risk. Varying levels of monitoring will be conducted depending on the level of concern associated with each species; as the level of concern about a species increases, the investment in monitoring increases." The 2001 Framework allows for a very limited degree of habitat monitoring in lieu of actual population moni-

toring, stating that "coarse habitat relationships constitute a relatively insensitive index to the status of populations and would only be appropriate for species with a lower level of concern or for which the status of the population were also being monitored."

According to the 2001 Framework, the hairy woodpecker and Williamson's sapsucker are low-vulnerability MIS species. Low-vulnerability species are monitored to determine changes in their distribution. Distribution data consist of "changes in the presence of species across a number of sample locations" and is a "spatially explicit version of frequency of occurrence data." In addition, the 2001 Framework notes that in an area as large as the Sierra Nevadas, "changes in the distribution of species represent ecologically significant information on the status and change of populations." Appendix E of the 2001 Framework makes explicit that population data must be collected for the hairy woodpecker and Williamson's sapsucker. The black-backed woodpecker is not specifically mentioned in the 2001 Framework, but it is designated as an MIS species in the LRMP and in the two FEISs.

As a preliminary matter, we conclude that NFMA regulations promulgated in 1982 apply to the 2001 Framework and 2004 Supplement. These regulations require population monitoring. *See* 36 C.F.R. § 219. Because the 2001 Framework and 2004 Supplement were developed based on regulations in effect before November 9, 2000, transitional rules, now contained at 36 C.F.R. § 219.14, govern this case. The applicable regulation provides:

> For units with plans developed, amended, or revised using the provisions of the planning rule in effect

> prior to November 9, 2000, the Responsible Official may comply with any obligations relating to management indicator species by considering data and analysis relating to habitat *unless the plan specifically requires population monitoring or population surveys for the species.* Site-specific monitoring or surveying of a proposed project or activity area is not required, but may be conducted at the discretion of the Responsible Official.

36 C.F.R. § 219.14(f) (emphasis added).

The district court found that in light of the hairy woodpecker and Williamson's sapsucker's classification as "low vulnerability" species, a lower level of monitoring is envisioned for these birds, and that the use of BBS data satisfies this lower level of monitoring. Earth Island argues that the district court erred because the BBS data are insufficient and inaccurate.

The BBS is a cooperative program sponsored by the governments of the United States and Canada to monitor several North American bird species. Under the BBS, the Williamson's sapsucker and black-backed woodpecker are listed in the "red" category, meaning that the results are "very imprecise" and the data suffer from low regional abundance and small sample sizes. The hairy woodpecker is listed in the "blue" category, which reflects data of "moderate precision" and of "moderate abundance," but which still "may not provide valid results." The BBS notes other potential problems in its overall data collection, specifically that the trends do not take into account activity outside of the range of the survey; that the surveys are only conducted by roadside, and "may not be representative of regional habitat changes"; and that within the range of the

survey, many habitats are not well covered and that species within those habitats are consequently "poorly sampled."

Although not controlling on this court, *Sierra Club v. Eubanks*, 335 F. Supp. 2d 1070 (E.D. Ca. 2004), is instructive. In *Eubanks*, the same district judge as in this case granted a preliminary injunction against the logging and proposed timber sale provided in the Red Star Restoration Project. *Id.* at 1073. The Tahoe Forest Plan expressly provided for annual population monitoring of MIS species, and it listed each species "'for which population trend data is expected to be obtained.' " *Id.* at 1081 (quoting the administrative record). The USFS argued that population survey information was not required as long as MIS habitats were adequately analyzed, and that because the Red Star Restoration Project would not diminish the habitat for MIS species, actual monitoring was not required. *Id.* The district court agreed with this premise, stating that "[h]abitat analysis is an acceptable substitute for population trend data if there is enough underlying data to support such an analysis . . . ." *Id.* at 1082. Nevertheless, the district court concluded that the Red Star Restoration Project failed to comply with the El Dorado LRMP, the Sierra Nevada Framework, and the NFMA because underlying data for MIS species that could provide the necessary information for a habitat analysis did not exist. *Id.*

In its order denying Earth Island's request for a preliminary injunction, the district court distinguished *Eubanks* by concluding that in this case, such underlying data, in the form of the BBS, do exist. In support of this conclusion, the district court relied upon *Forest*

Conservation Council v. Jacobs, 374 F. Supp.2d 1187, 1207 (N.D. Ga. 2005). In *Jacobs*, the district court found that the BBS provided sufficient data. However in *Jacobs*, the USFS relied on other data in addition to the BBS. *Id.* at 1205.

We do allow the USFS to conduct habitat analyses in place of population monitoring under certain circumstances. In *Inland Empire Public Lands Council*, various environmental groups claimed that an EIS did not perform a proper population analysis under the NFMA for several sensitive species living in a project area, including the black-backed woodpecker. 88 F.3d at 759. We upheld the USFS's use of a habitat management analysis where the USFS had (1) consulted field studies showing how many acres of territory an individual species needed; (2) assumed that the amount of acreage remained constant no matter the actual size of the individual species' territory; and then (3) examined the proposed alternatives to see how many acres of necessary habitat remained after the timber was harvested. *Id.* We also upheld the USFS's decision to not engage in a detailed analysis of one species because nesting and feeding habitat requirements were not available, stating that "an analysis that uses all the scientific data currently available is a sound one." *Id.* at 762.

The USFS relies upon *Inland Empire* to argue that by analyzing the amount of habitat affected, rather than direct population counts of the birds, it has satisfied the NFMA. This argument fails for two reasons. First, a plain reading of the regulations does not support the USFS's argument. The transitional rules state that the USFS may use habitat analysis in lieu of population

monitoring only when a forest plan does not specifically require population monitoring. The 2001 Framework and 2004 Supplement provide that the USFS may use "population monitoring *and/or* habitat analyses." However, in discussing the hairy woodpecker and Williamson's sapsucker, the Framework expressly requires "population monitoring," specifically in the form of "distribution data." It is difficult to see how distribution data could effectively be gathered in the absence of actual population monitoring, and we reject the USFS's argument that it is under no obligation to determine population trends for the hairy woodpecker or Williamson's sapsucker.

Second, although we agree that the USFS could have relied on habitat monitoring for the black-backed woodpecker, the USFS has not conducted a habitat analysis on the level of that found satisfactory in *Inland Empire*. *See Idaho Sporting Cong. v. Thomas*, 137 F.3d 1146 (9th Cir. 1998) (allowing habitat analysis under the NFMA in certain circumstances). The FEISs discuss various studies of black-backed woodpeckers that confirm their preference for burned forest habitat. Table 3-52 of the Power FEIS groups cavity-nesting birds into three different species groups, lists the areas included in the project areas that are "assumed to provide high and moderate capability habitat," and then lists the number of available acres of high and moderate capability habitat. There is no indication that the USFS consulted current or accurate field studies to arrive at these numbers, and there is no identification of the methodology used in determining what constitutes suitable habitat.

As we stated in *Native Ecosystems Council*, "[o]ur case law permits the Forest Service to meet the wildlife species viability requirements by preserving habitat, but only where both the Forest Service's knowledge of what quality and quantity of habitat is necessary to support the species and the Forest Service's method for measuring the existing amount of that habitat are reasonably reliable and accurate." 428 F.3d at 1250. In *Austin*, we noted that the black-backed woodpecker is "particularly dependent upon post-fire landscapes." 430 F.3d at 1065. There, we concluded that the USFS had failed to provide a factual basis sufficient to satisfy the NFMA because the EIS did not indicate how the USFS determined that habitat levels were not critically low or how it planned to generate additional habitat to counteract losses from logging. *Id.* at 1068. We likewise conclude here that because the USFS's habitat analysis of the black-backed woodpecker has not provided a factual basis for determining the quantity or quality of suitable habitat, its analysis does not satisfy the NFMA.

We also conclude that the USFS's reliance on BBS data to meet its population monitoring obligation was arbitrary and capricious. Table 3-53 in the Power FEIS (Table 3-54 in the Freds FEIS) is entitled "Population trend of cavity-nesting birds." Immediately beneath the table, the FEIS states, "NOTE: based upon Breeding Bird Survey routes in the Sierra Nevada physiographic province, from 1996-2003." Table 3-53 then proceeds to list the population status of the hairy woodpecker as "Decreasing" and the population status of the Williamson's sapsucker as "Unknown." The population status of the black-backed woodpecker is also listed as "Unknown." A footnote to the hairy woodpecker figure states, "Data is not statistically significant; tendency is

estimated using the population trend classification system described in Siegel and deSante (1999)."

The 2004 Supplement specifically mentions the need for annual monitoring of MIS species, stating that only after a period of annual monitoring will there be "sufficient understanding of important habitat characteristics that we can confidently monitor habitat without annual monitoring of species' distribution and abundance." We therefore disagree with the USFS that annual monitoring is not required. The USFS has not complied with 36 C.F.R. § 219.19 because it has not sufficiently monitored the population of the hairy woodpecker and Williamson's sapsucker. We hold that the BBS alone cannot satisfy the population monitoring requirement, and the USFS has acted arbitrarily and capriciously under the NFMA in relying upon it. *Cf. Colo. Wild v. U.S. Forest Serv.*, 299 F. Supp. 2d 1184, 1189 (D. Colo. 2004) (holding that where an FEIS stated that it "lacks qualitative data" for one species, had "no specific data" for another, and was "currently in the process of establishing a monitoring program" for a third, the USFS had not met its monitoring obligations under the 1982 regulations); *Forest Guardians v. U.S. Forest Serv.*, 180 F. Supp.2d 1273, 1282 (D.N.M. 2001) (holding that under the 1982 regulations, the BBS did not satisfy the monitoring requirement where the district court could not tell whether population surveys had been conducted for the area at issue). With respect to the black-backed woodpecker, we also hold that the USFS has acted arbitrarily and capriciously by relying on inadequate habitat monitoring data. *See Lands Council v. Powell*, 395 F.3d 1019, 1036 (9th Cir. 2005) (holding that the USFS violated the NFMA where the

data for a habitat analysis were outdated and featured inaccurate estimates).

The USFS's approval and implementation of both Projects without appropriate or sufficient population and habitat data is contrary to the NFMA and governing provisions of the forest plan. The district court erred in finding otherwise.

C. Overall Likelihood of Success on the Merits

For the foregoing reasons, we conclude that Earth Island has shown a "strong likelihood of success on the merits" of both its NEPA and NFMA challenges to the Power and Freds FEISs and RODs. *Earth Island*, 351 F.3d at 1297. We now evaluate the remaining criteria for granting a preliminary injunction.

D. Possibility of Irreparable Injury, Balance of Hardships, and Advancement of the Public Interest

Because Earth Island has shown "a strong likelihood of success on the merits," it need only show "the possibility of irreparable injury" if preliminary relief is not granted, and that the "balance of hardships" tips in its favor. *Id.* Further, in this case it is appropriate that it be required to show "the advancement of the public interest." *Id.*; *Kootenai Tribe v. Veneman*, 313 F.3d 1094, 1125 (9th Cir. 2002) ("[W]here the purpose of the challenged action is to benefit the environment, the public interest must be taken into account in balancing the hardships").

The "possibility of irreparable injury" has clearly been shown. We have stated that "[e]nvironmental injury, by its nature, can seldom be adequately remedied by money damages and is often permanent or at

least of long duration, i.e., irreparable." *Nat'l Parks & Conservation Ass'n v. Babbitt*, 241 F.3d 722, 737 (9th Cir. 2001) (internal quotations omitted). In this case, Earth Island contends that the Power and Freds Projects may result in the unnecessary cutting of trees that would otherwise survive, in harm to the California spotted owl, and in harm to several MIS bird species. Earth Island has certainly shown that there is a possibility of such injury, and that such injury is irreparable.

The balance of hardships also tips in Earth Island's favor. The USFS and SPI contend, with some reason, that they will suffer economic losses if we enjoin the timber sales. But in *Babbitt*, we stated that a cruise ship's "loss of anticipated revenues . . . does not outweigh the potential irreparable damage to the environment." *Id.* at 738. Further, in *Earth Island* we noted the importance of preserving the public's interest in "preserving precious, unreplenishable resources." *Earth Island*, 351 F.3d at 1309 (quoting *Kootenai Tribe*, 313 F.3d at 1125).

Finally, we believe that a preliminary injunction advances the public interest. The preservation of our environment, as required by NEPA and the NFMA, is clearly in the public interest.

Conclusion

We have noticed a disturbing trend in the USFS's recent timber-harvesting and timber-sale activities. *See, e.g., Ecology Ctr., Inc. v. Austin*, 430 F.3d 1057 (9th Cir. 2005) (holding that the USFS's post-fire treatment of old-growth forest stands in the Lolo National Forest violated both the NFMA and NEPA, and that the EIS failed to explain adequately the adverse impacts of the

proposed plan on the black-backed woodpecker); *Lands Council v. Powell*, 395 F.3d 1019 (9th Cir. 2005) (reversing the district court's grant of summary judgment to the USFS because its EIS did not take a "hard look" at past timber harvests or current trout habitat conditions); *Idaho Sporting Cong. v. Rittenhouse*, 305 F.3d 957 (9th Cir. 2002) (remanding to the district court to enjoin two timber sales approved in violation of the NFMA and NEPA). *See also Utah Envtl. Cong. v. Bosworth*, 421 F.3d 1105(10th Cir. 2005) (holding that the USFS did not properly monitor MIS species and did not consider a reasonable range of alternatives in a proposed timber-harvesting project); *Sierra Club v. Eubanks*, 335 F. Supp.2d 1070 (E.D. Cal. 2004) (granting a preliminary injunction against salvage logging provided for in the USFS's post-fire Red Star Restoration Project); *Sierra Club v. Bosworth*, 199 F. Supp.2d 971 (N.D. Cal. 2002) (rejecting the USFS's argument that post-fire salvage burning was needed to prevent a future fire and enjoining implementation of post-fire salvage logging); *Colo. Wild v. U.S. Forest Serv.*, 299 F. Supp.2d 1184 (D. Colo. 2004) (granting a preliminary injunction of a timber salvage project because the USFS failed to gather population data for MIS species); *Forest Guardians v. U.S. Forest Serv.*, 180 F. Supp.2d 1273(D. N.M. 2001) (reversing authorization of a timber sale in the Cibola National Forest because of the USFS's failure to collect adequate MIS population data).

It has not escaped our notice that the USFS has a substantial financial interest in the harvesting of timber in the National Forest. We regret to say that in this case, like the others just cited, the USFS appears to have been more interested in harvesting timber than in complying with our environmental laws.

We reverse the district court's denial of Earth Island's request for a preliminary injunction, and we remand to the district court for proceedings consistent with this opinion. Our injunction pending appeal shall remain in effect for 30 days following the issuance of the mandate in order to allow the district court sufficient time to fashion such preliminary injunctive relief as it deems appropriate consistent with this opinion.

REVERSED AND REMANDED.

NOONAN, Circuit Judge, concurring:

There is no doubt that the district court articulated the wrong standard as to the possibility of harm that the plaintiffs must show. *Earth Island v. United States Forest Service*, 351 F.3d 1291, 1298 (9th Cir. 2003) (*Earth Island* I). There is also no doubt in my mind that the financial interest of the Forest Service requires further investigation and evaluation. *See id.* at 1309 (Noonan, J., concurring). That the parties have not pursued this problem does not give the Forest Service a pass. If it is indeed a biased adjudicator, its determination is a nullity. *Tumey v. Ohio*, 273 U.S. 510, 522, 47 S. Ct. 437, 71 L.Ed. 749 (1927).

It is not too difficult for a court of appeals to discern the correct legal standard for an injunction and to see the problem created by a financial interest on the part of the adjudicator. It is more difficult for this court to master the massive record in an environmental case and to be confident in its discrimination between expert opinions. Recognizing the mastery of the available data that distinguishes the majority opinion, I cannot say that I am sure as to Earth Island's probable success. I would remand to the district judge (1) to obtain information as to the importance of the sales to the Forest

Service's operation; (2) to apply the correct legal standard; and (3) to make its own estimate of the probability of Earth Island's success on the merits.

APPENDIX B

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

No. 05-16776

D.C. No. CV-05-01608-MCE
Eastern District of California,
Sacramento

EARTH ISLAND INSTITUTE, A CALIFORNIA PROFIT ORGANIZATION; CENTER FOR BIOLOGICAL DIVERSITY, A NON-PROFIT ORGANIZATION,
PLAINTIFFS-APPELLANTS

v.

UNITED STATES FOREST SERVICE; DALE BOSWORTH, CHIEF OF THE UNITED STATES FOREST SERVICE; JOHN BERRY, FOREST SUPERVISOR FOR EL DOREDO NATIONAL FOREST, DEFENDANTS-APPELLEES

SIERRA PACIFIC INDUSTRIES, DEFENDANT-INTERVENOR-APPELLEE

[Filed: Jan. 11, 2006]

ORDER

BEFORE: NOONAN, TASHIMA, and W. FLETCHER, Circuit Judges.

We reconsider our September 21, 2005 order denying plaintiff Earth Island's request for an emergency injunction pending appeal. We hereby grant the injunction and order the United States Forest Service and

Sierra Pacific Industries immediately to cease all logging operations in the areas encompassed by the Freds Fire Restoration Project and the Power Fire Restoration Project, pending our determination of the appeal on the merits. Because of the expected short duration of this injunction, no bond or other security shall be required.

APPENDIX C

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

No. 05-16776

D.C. No. CV-05-01608-MCE
Eastern District of California,
Sacramento

EARTH ISLAND INSTITUTE, A CALIFORNIA PROFIT ORGANIZATION; ET AL., PLAINTIFFS-APPELLANTS

v.

UNITED STATES FOREST SERVICE; AN AGENCY OF THE UNITED STATES DEPARTMENT OF AGRICULTURE, DEFENDANTS-APPELLEES
AND
SIERRA PACIFIC INDUSTRIES, INTERVENOR-APPELLEE

[Filed: Sept. 21, 2005]

ORDER

Before: REINHARDT and RYMER, Circuit Judges.

The United States Forest Service's motion to exceed opposition page limits is granted. The Clerk shall file the opposition received September 19, 2005.

Appellants' motion to exceed reply page limits is granted. The Clerk shall file the reply received on September 20, 2005.

Sierra Pacific Industries' motion for leave to intervene as a non-aligned appellee is granted for purposes of this appeal only.

Appellants' emergency motion for an injunction pending appeal is denied.

This is a preliminary injunction appeal. The court sua sponte expedites the briefing and hearing of this appeal. The provisions of Ninth Circuit Rule 31-2.2(a) shall not apply to this appeal. Any motions to extend time to file briefs will be strongly disfavored. Each party shall serve its brief on opposing counsel by overnight mail or electronic means.

The briefing schedule is set as follows: the opening brief, answering brief, and non-aligned intervenor's brief are due not later than October 11, 2005. If appellants fail to file timely the opening brief, this appeal will be dismissed automatically by the Clerk for failure to prosecute. *See* 9th Cir. R. 42-1.

The parties are reminded of the court's preference for joint briefing. *See* 9th Cir. R. 28-4.

This appeal and any motions pending when briefing is completed shall be referred to the next available motions panel for disposition. *See* 9th Cir. R. 3-3(d).

APPENDIX D

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF CALIFORNIA

No. CIV. S 05-1608 MCE PAN

EARTH ISLAND INSTITUTE, A CALIFORNIA NON-PROFIT, AND CENTER FOR BIOLOGICAL DIVERSITY, A NON-PROFIT CORPORATION, PLAINTIFFS

v.

UNITED STATES FOREST SERVICE, DALE BOSWORTH, IN HIS OFFICIAL CAPACITY AS CHIEF OF THE U.S. FOREST SERVICE, AND JOHN BERRY, IN HIS CAPACITY AS FOREST SUPERVISOR FOR THE ELDORADO NATIONAL FOREST, DEFENDANTS

[Filed: Aug. 25, 2005]

MEMORANDUM AND ORDER

Plaintiffs, Earth Island Institute and the Center for Biological Diversity (hereinafter collectively referred to as Plaintiffs) seek to enjoin implementation, by Defendant United States Forest Service ("USFS") of two post-fire restoration projects in the Eldorado National Forest—-the Freds Fires Restoration Project ("Freds Project") and the Power Fire Restoration Project ("Power Project"). Those projects, which provide for the logging of fire-damaged trees in the wake of

two wildfires occurring in October of 2004, are claimed by Plaintiffs to violate the provisions of the 2004 Sierra Nevada Forest Plan Amendment (the "Framework"), the National Forest Management Act ("NFMA"), 16 U.S.C. § 1600, et seq., the National Environmental Policy Act ("NEPA"), 42 U.S.C. § 4321, et seq. In accordance with the provisions of the Administrative Procedures Act ("APA"), Plaintiffs now seek injunctive relief. The Court granted a temporary restraining order on August 18, 2005 pending its consideration of Plaintiffs' instant request for a preliminary injunction pending resolution of the merits of this case. Having now considered the matter further, and for the reasons set forth below, the Court denies the requested preliminary injunction.

BACKGROUND

On October 6, 2004, the Power Fire was reported in Amador County, California approximately 17 miles east of the community of Pioneer. That fire ultimately consumed nearly 17,000 acres, 14,255 of which were situated in the Eldorado National Forest. Approximately 48 percent of the burned area, or more than 8, 100 acres, burned with high intensity, killing 75 to 100 percent of trees and incinerating duff and litter protecting the soils. Def.'s Ex. 1 (Power ROD) at 1.

Less than ten days later, on October 13, 2004, another human-caused fire of unknown origin combusted within portions of the Eldorado National Forest near Silver Fork and Kyburz. That fire, denominated as the Freds Fire, encompassed a total of some 7,700 acres, including 4600 acres within the National Forest, 2600 of which burned at high intensity levels comparable to the Powers fire. Def's Ex. 6 (Freds FEIS) at 1.

Both the Power and Freds projects were designed to restore portions of the fire-ravaged landscape falling within the Eldorado National Forest. The USFS identified four objectives in that regard: 1) to reduce long-term fuel loading in order to reduce future fire severity and resistance to control; 2) to improve road drainage and establish effective ground cover in severely burned areas to alleviate erosion and sedimentation to streams; 3) to remove certain dead trees while they retain economic value; and 4) to reduce safety hazards to the public and forest workers from trees falling in the future. Def's Ex. 6 at 3-6, Def.'s Ex. 1 at 1.

Final Environmental Impact Statements ("FEISs") were issued for both projects on July 1, 2005. Thereafter, on August 1, 2005, a Record of Decision implemented Alternative One from the FEIS for the Power Project, which permitted timber harvest on some 5574 acres of the total acreage burned by the fire within the Eldorado National Forest (13,611 acres), and which also contemplated additional harvesting on another 2,600 acres depending on ultimate tree mortality. The project incorporates snag (dead tree) retention areas of various sizes, creates no harvest zones along perennial streams, and calls for the preservation of additional dead trees in other harvest areas of various densities and configurations in order to accommodate wildlife dependent on such habitat. Tree harvest would be accomplished using skyline and helicopter methods on steeper slopes to minimize soil impacts, and slash (debris) from harvesting operations would be treated, so as to ensure acceptable fuel loading levels while, at the same time, creating ground cover as needed to reduce erosion. A similar Record of Decision was made with respect to the Freds Project, also on August 1, 2005, which allowed

timber cutting on some 2900 acres under Alternative Four of the Freds FEIS. That harvest was made under guidelines similar to those identified with respect to the Powers Project as identified above.

Because the USFS determined that a delay in implementing the projects pending the standard administrative appeal period would cause deterioration of timber to be salvaged and would accordingly reduce revenues generated by timber sales for reforestation efforts within project areas, an emergency determination was obtained from the Regional Forester which allowed both projects to commence in August of 2005.

Through the present lawsuit, Plaintiffs have challenged both the Powers and Freds Projects on grounds 1) that the respective FEISs failed to ensure scientific integrity in predicting mortality rates of trees to be cut and in estimating post-fire soil cover levels; 2) that the FEISs failed to compile required population monitoring data for certain Management Indicate Species ("MIS") with the Eldorado National Forest; and 3) that the FEISs failed to adequately assess impacts to the California Spotted Owl. Plaintiffs claim that irreparable injury may result if the projects are allowed to proceed in the face of those inadequacies, which they claim run afoul of the provisions of the Framework, the NFMA, and NEPA. A preliminary injunction is sought on that basis.

STANDARD

A preliminary injunction is an extraordinary remedy and Plaintiff have the burden of proving the propriety of such a remedy by clear and convincing evidence. See *Granny Goose Foods, Inc. v. Teamsters*, 415 U.S. 423,

442 (1974). In order to warrant issuance of a preliminary injunction, a party must demonstrate either: 1) a combination of probable success on the merits and the possibility of irreparable injury; or 2) that serious questions are raised and the balance of hardships tips sharply in favor of granting the requested injunction. *Stuhlbarg Int'l Sales Co., Inc. v. John D. Brush & Co., Inc.*, 240 F.3d 832, 839-40 (9th Cir. 2001). These two alternatives represent two points on a sliding scale, pursuant to which the required degree of irreparable harm increases or decreases in inverse correlation to the probability of success on the merits. *Roe v. Anderson*, 134 F.3d 140-0, 1402 (9th Cir. 1998); *United States v. Nutri-cology, Inc.*, 982 F.2d 1374, 1376 (9th Cir. 1985). Under either formulation of the test for granting a preliminary injunction, however, Plaintiffs must demonstrate a significant threat of irreparable injury. *Oakland Tribune, Inc. v. Chronicle Publishing Co.*, 762 F.2d 1374 (9th Cir. 1985).

Here a preliminary injunction is sought in the context of a lawsuit charging the USFS with violations of both NEPA and NFMA as well as provisions of the Administrative Procedure Act, 5 U.S.C. § 701 et seq. NEPA imposes a procedural requirement that an agency contemplate the environmental impacts of its actions (*Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1149 (9th Cir. 1998), with a detailed environmental impact statement required for actions significantly affecting the quality of the human environment. 42 U.S.C. § 4332(c). An agency must take a "hard look" at the consequences, environmental impacts, and adverse environmental effects of a proposed action within an environmental impact statement, when required. *Kleppe v. Sierra Club*, 427 U.S. 390, 410, n. 21 (1976). If

an EIS adequately discloses such effects, NEPA's goal is satisfied. *Inland Empire Public Lands Council v. United States Forest Serv.*, 88 f.3d 754, 758 (9th Cir. 1996). As the Ninth Circuit stated in *Inland Empire*, "NEPA exists to ensure a *process*, not to ensure any result." 88 F.3d at 758 (emphasis in original).

NEPA does not mandate that an EIS be based on a particular scientific methodology, nor does it require a reviewing court to weigh conflicting scientific data. *Friends of Endangered Species, Inc. v. Jantzen*, 760 F.2d 976, 986 (9th Cir. 1985). An agency must be permitted discretion in relying on the reasonable opinions of its own qualified expert, even if the court might find contrary views more persuasive. *See, e.g., Kleppe*, 427 U.S. at 420, n. 21. NEPA does not allow an agency to rely on the conclusions and opinions of its staff, however, without providing both supporting analysis an data. *Idaho Sporting Congress*, 137 F.3d at 1150. Credible scientific evidence that contraindicates a proposed action must be evaluated and disclosed. 40 C.F.R. § 1502.9(b).

NFMA requires that "resource plans and permits, contracts, and other instruments for the use and occupancy of National Forest System lands shall be consistent with the land management plans." 16 U.S.C. § 1604(i). Consequently all activities in USFS forests, including timber sales, must be determined to be consistent with the governing forest plan, which is a broad, programmatic planning document. *See, e.g., Wilderness Society* v. *Thomas*, 188 F.3d 1130, 1132 (9th Cir. 1999). A site specific project may proceed only if it is not only consistent with the forest plan but also has been analyzed under NEPA as discussed above. *See,*

e.g., Idaho Conservation League v. *Mumma*, 956 F.2d 1508, 1512 (9th Cir. 1992).

Because neither NEPA nor NFMA contains provisions allowing a private right of action (*see Lujan* v. *National Wildlife Federation*, 497 U.S. 871, 882 (1990) and *Ecology Center Inc.*, v. *United States*, 192 F.3d 922 for this proposition under NEPA and NFMA, respectively), a party can obtain judicial review of alleged violations of NEPA and NFMA only under the waiver of sovereign immunity in the Administrative Procedure Act ("APA"), 5 U.S.C. §§ 701-706. Under the APA, the court must determine whether, based on a review of the agency's administrative record, the EIS was "arbitrary and capricious," outside the scope of the agency's statutory authority, or otherwise not in accordance with the law. *Salmon River Concerned Citizens*, 32 F.3d at 1356. In conducting this review, the standard to be employed is decidedly deferential to the agency's expertise. *Id.*

ANALYSIS

A. Tree Mortality and Soil Cover Guidelines

Plaintiffs take issue with the methodology employed as well as the scientific accuracy of the FEISs for both projects with respect to estimates of tree mortality and post-fire soil cover. In addition, with respect to trees within the project area that are indeed dead, Plaintiffs argue that Defendant's fuel concern about retaining a given number of snags per acre is unfounded and unwarranted. Examination of the FEIS, however, shows that the Forest Service identified the methodologies it used in reaching conclusions in these areas, provided supporting data for those conclusions, and cited the scientific literature relied upon for said conclusions. In addi-

tion, in opposing the instant request for preliminary injunctive relief, the USFS has submitted additional expert declarations from Sheri L. Smith and from Jeffrey D. Tenpas which buttress the validity of the scientific methodology employed in the FEISs.

While Plaintiffs have submitted declarations from their own experts, and specifically from Dr. Edwin Royce (attacking the accuracy of the mortality guidelines chosen by the USFS) and from Jon Rhodes (questioning the extent of effective soil cover), an agency like the USFS must have the discretion to rely on the reasoned opinions of its own experts, even in the face of opposing opinion from other sources. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 378 (1989). As indicated above, NEPA does not mandate that an EIS be based on a particular scientific methodology, and does not require a reviewing court to weigh conflicting scientific data. *Friends of Endangered Species, Inc. v. Jantzen*, 760 F.2d at 986. Instead, courts must "defer to agency expertise on questions of methodology unless the agency has completely failed to address some factor, consideration of which was essential to a truly informed decision." *Bear Lake Watch, Inc. v. Federal Energy Regulatory Comm.*, 324 F.3d 1071, 1077 (9th Cir. 2003), quoting *Inland Empire Pub. Lands Council v. Schultz*, 992 F.2d 997 (9th Cir. 1983). Review of FEISs like those involved here is consequently limited, and decidedly deferential to the agency's expertise. *Salmon River Concerned Citizens v. Robertson*, 32 F.3d 1346, 1356 (9th Cir. 1994). An agency's determination may consequently be reversed under the APA only if it acted in a manner deemed "arbitrary, capricious, an abuse of discretion or otherwise not in accordance with the law."

5 U.S.C. § 706(2); *see Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402, 416 (1971).

Because this Court cannot say that the methodology utilized by the USFS with respect to tree mortality/retention and soil cover is unreasonable and/or unfounded, it finds that there is no reasonable probability of success as to those claims that would justify a preliminary injunction. Specifically, Plaintiffs have not shown, as they must, that the actions of the USFS were arbitrary and capricious. Moreover, as discussed in more detail below, even if Plaintiffs were to raise serious questions as to the validity of the USFS methodology, which the Court does not believe they have accomplished, a balance of hardships analysis still does not weigh sharply in favor of granting the relief requested by Plaintiffs, a prerequisite for granting injunctive relief in this instance. *Stuhlbarg*, 240 F.3d at 839-840. Consequently Plaintiffs have not demonstrated an entitlement to a preliminary injunction by questioning the approach utilized by the USFS with respect to tree mortality and soil cover issues.

B. MIS Monitoring Obligations

Plaintiffs argue that the FEISs for both projects fails to include population monitoring data for two types of woodpeckers, the Hairy woodpecker and the Williamson's sapsucker. According to Plaintiffs, because both of those species are denominated as MIS, and because the provisions of the 2001 Framework (as incorporated within its 2004 successor) call for population monitoring, the requirements of both the Framework and the NFMA have necessarily been violated. While Plaintiffs appear to contend that such violations, on their face, warrant issuance of a preliminary injunc-

tion, in this Court's view the analysis is not quite so simple.

First, the Framework provisions upon which Plaintiffs rely are equivocal in terms of just what data must in fact be obtained. Although the list of MIS and Species at Risk identified in the 2001 Framework (Pl.'s Ex. J., Appendix E-64, as adopted by the 2004 Framework, *see* Pl.'s Ex. K, p. 70) do contain a checkmark indicating that population monitoring is required next to the categories for the Hairy woodpecker and the Williamson's sapsucker, the same table reflects that the vulnerability level for both species is "low". With respect to that vulnerability rating, the Framework goes on to say that "varying levels of monitoring will be conducted depending on the level of concern associated with each species; as the level of concern about a species increases, the investment in monitoring increases." (Pl.'s Ex. J, Appendix E-62). The Framework may consequently be read as envisioning a lower level of monitoring, and some flexibility, for birds with low vulnerability ratings like the woodpeckers at issue herein.

Significantly, unlike the situation confronted by this Court in *Sierra Club v. Eubanks*, 335 F. Supp. 2d 1070 (E.D. Cal. 2004), in this case there was available woodpecker population data available that was considered within the project FEISs. Specifically, the USFS used "Breeding Bird Survey" (BBS) population data to provide information on population trends of cavity-nesting birds within the Sierra Nevada region like the woodpecker. (Def.'s Ex. 2 (Power EFIS at 198, 242-243, 522; Def.'s Ex. 7 (Freds FEIS) at 217). The BBS is an ongoing cooperative program sponsored by the United

States and Canadian governments to monitor may North American bird species. (See North American Breeding Bird Survey Homepage, *http://www.pwrc.usgs.gov/bbs).*

In *Forest Conservations Council v. Jacobs*, 374 F. Supp. 2d 1187, 1207 (N.D. Ga. 2005), the court approved the use of BBS surveys as "quantitative data" of an MIS species population. Moreover, and in addition, the Power and Fred project documents also examined scientific data on the population densities of another woodpecker at issue, the black-backed woodpecker, in pre- and post-fire habitats within the Central Sierra Nevada. Def.'s Ex. 2 (Power FEIS) at 243; Def.'s Ex. 22 (FREDS MIS Report) at 44.[1] The Forest Service also examined relevant scientific literature assessing population trends for cavity nesting species in general. *See Id.* at 15-17, 19, 44-45. Based on this data, the Court cannot say that the FEISs failed to take population into account, particularly in view of the "low vulnerability" rating assigned to the Hairy woodpecker and Williamson's sapsucker. Consequently the Court cannot say that Plaintiffs have demonstrated a probability of success on their claim that the USFS violated its obligations under the 2004 Framework with respect to population monitoring.

Even were the Court to determine that a violation of the Framework, and hence also the NFMA, occurred because proper monitoring was not performed for the Hairy woodpecker and the Williamson's sapsucker, that does not end the analysis. In *Amoco Prod. v. Village of Gambell*, 480 U.S. 531, 544 (1987), the Supreme Court

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[1] Plaintiffs have not demonstrated that this data fails to apply to the other two woodpecker species at issue in this case, the Hairy woodpecker and the Williamson's sapsucker.

rejected the notion that any violation of an environmental statute (in that case, NEPA) raises a presumption of irreparable injury. Instead, a court must balance the competing interests and consider the effect on each party and the public in determining whether injunctive relief is warranted.

Looking at the bigger picture, even if the Power and Freds Projects proceed without proper population monitoring for the two woodpecker species at issue, that does not necessarily mean that any immediate and irreparable injury will occur in the absence of that monitoring. Any preference by those birds for severely burned habitat may be more than satisfied by the untreated/unharvested portions of the project areas, which total some 36 percent for Freds and 40 percent for Power.[2] Additionally, even within areas to be harvested some snags will be retained, and acreage specifically for cavity-nester habitat is set aside in both projects (some 750 acres of burned forest within the area to be logged in the Power project is set aside for that purpose, and the Freds project similarly sets aside 129 acres).[3] In light of these factors, Plaintiffs have not demonstrated irreparable harm even if they can show a population monitoring violation.

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[2] These percentages only encompass untreated areas of the project areas themselves, which of course do not account for the total acreage burned by the fires. Adding the total burned areas to the equation indicates that some 52 percent of the acreage burned by the Power fire will not be treated by the Power project. The comparable figure for the Freds fire is approximately 62 percent.

[3] It should also be noted that, according to Plaintiffs, any woodpecker preference for burned forest habitat as living and breeding habitat is usually only for four to six years post-fire, a relatively short period of time. *See* Pl.'s Opening Points and Authorities, p. 7.

C. California Spotted Owl Habitat

Prior to the 2004 fires, the area encompassed by the Power project contained nine owl protected activity centers ("PACs"). The acreage attendant to the Freds project contained three PACs, which are defined as 300 acres of the best owl habitat surrounding a known nest tree for the California Spotted Owl. It appears undisputed that much of the area occupied by these PACs was severely burned.[4] Nonetheless, in an effort to accommodate the needs of the CASPO, the USFS not only retained as much suitable owl habitat that remained within the project area, but also attempted to retain many of the previously constituted PACs by including some burned habitat. Under the 2004 Framework, a stand-replacing event like the project fires in this case are a valid reason for remapping affecting PACs. 2004 Framework ROD at 37.

In taking issue with the USFS' decision not to leave all prior PACs intact, Plaintiffs point to a December 2004 study suggesting that spotted owls, radio-tracked following a fire in southwestern Oregon, actually spent a significant amount of roosting and foraging time in moderate to severely burned forest areas. (Bond Dec'l., ¶ 19 and Ex. B). Plaintiffs consequently argue that neither FEIS considered that owls might actually use and benefit from burned patches within their own territories. Plaintiffs contend that some of the previously designated PACs were in fact occupied after the fires.

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[4] Within the Powers project area, suitable owl habitat was reduced from 5,880 acres pre-fire to 2,750 acres post-fire. Def's Ex. 2, (Power FEIS) at 201. The reduction for the Freds project was from approximately 2,100 acres to 600 acres. Def.'s Ex. 7 (Freds FEIS) at 201, 226.

In response, the USFS points out that in assessing impact on the California Spotted Owl in both projects, it assumed that previously designated owl habitat was occupied. (Def.'s Ex. 2 (Power FEIS) at 185; Def's Ex. 7 (Freds FEIS) at 386; Loffland Decl., ¶ 2). The Forest Service further commenced surveys beginning in the Spring of 2005 to track owl return to PACs. Def's Ex. 2 at 185; Def.'s Ex. 7 at 202. Additionally, the USFS demonstrates that prevailing scientific evidence supports the notion that preferred spotted owl habitat entails two canopy layers and between 40 and 70 percent canopy cover, depending on whether the use in question is for nesting or for foraging. See Def.'s Ex. 13 (Power BA/BE) at 55, Loffland Decl., ¶ 3. Both FEISs also identified the study referenced by Plaintiffs and explained why that study was preliminary and not dispositive as to suitability. Def.'s Ex. 2 (Power FEIS) at 201-202; Def.'s Ex. 7 (Freds FEIS) at 196; Loffland Decl., ¶ 4). An agency like the USFS is entitled to wide discretion in assessing scientific evidence, as long as it takes the requisite "hard look" at the issues and responds to reasonable opposing viewpoints. *Earth Island Institute v. U.S. Forest Service*, 351 F.3d 1291, 1301 (9th Cir. 2003). Court review is limited to determining whether EISs like those involved here contain "a reasonably thorough discussion of the significant aspects of the probable environmental consequences" of a proposed action. *Oregon Envtl. Council v. Kunzman*, 817 F.3d 484, 492 (9th Cir. 1987).

Given the above, Plaintiffs have not demonstrated entitlement to a preliminary injunction based on any shortcoming in either FEIS as to the California Spotted Owl. The FEISs for both projects appear to contain a

reasonably thorough analysis, and consequently the requisite "hard look", as to owl impact.

D. Balancing of Interests

Inasmuch as this case involves logging of timber in a national forest following a severe wildfire, as stated previously (in the Court's August 18, 2005 Order granting a temporary restraining order) the issues presented are directly related to various public interests. Because such interests are implicated, the Court must determine whether the balance of public interests tips sharply in favor of granting injunctive relief in this matter. *Caribbean Marine Serv. v. Baldridge*, 844 F.2d 668, 674 (9th Cir. 1988). Even if Plaintiffs were successful in demonstrating some environmental harm, in balancing the relative hardships there is no presumption that environmental harm should outweigh other potential harm to the public interest. *See Fund for Animals, Inc. v. Lujan*, 962 F.2d 1391, 1400 (9th Cir. 1992).

As indicated above, the objectives of both the Power and Freds projects include fuel reduction designed to protect the forest and its surrounding communities from the threat of future devastating fire. The projects are also designed to protect the public and forest workers from falling trees, and revenue generated by the timber sales will contribute to reforestation activities that may be threatened in the absence or reduction of such revenue.[5] Given the force of these interests, the Court cannot say that the balance of interests tips sharply in favor of granting a preliminary injunction in this case.

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[5] According to the USFS, delay in implementing the projects may result in timber deterioration amounting to $11.3 million in lost proceeds as to the Power project and $800,00 for the Freds project. Def.'s Ex. 3 (Power ESD Analysis); Def.'s Ex. 8 (Freds ESD Analysis).

This is particularly true given the fact, as already indicated, that much of the charred landscape created by the Power and Freds fires (to which Plaintiffs assign considerable environmental value) will remain untreated in any event.

CONCLUSION

This Court's review of the USFS' actions in approving the Power and Freds projects is governed by an "arbitrary and capricious standard. *Biodiversity Legal Found. v. Badgley*, 309 F.3d 1166, 1176-77 (9th Cir. 2002). Given that standard, and following consideration of the factors to be considered in determining the propriety of injunctive relief, the Court finds that Plaintiffs have not demonstrated entitlement to a preliminary injunction in this case. Plaintiffs' motion for such relief is accordingly denied, and the Court's Temporary Restraining Order dated August 18, 2005 is vacated.

IT IS SO ORDERED.

DATED: August 25, 2005

/s/ MORRISON C. ENGLAND, JR.
MORRISON C. ENGLAND, JR.
UNITED STATES DISTRICT JUDGE

APPENDIX E

RECORD OF DECISION
POWER FIRE RESTORATION

Eldorado National Forest
100 Forni Road
Placerville, CA 95667
El Dorado and Amador Counties, California

Introduction

The Power Fire was reported the afternoon of October 6, 2004, on the north side of the Salt Springs Reservoir Dam located approximately 17 air miles east of Pioneer, California in Amador County. The fire burned up an extremely steep, south facing, brush covered slope, spreading into timber and heavy fuels. The fire subsequently burned west to Panther Creek drainage, fueled by strong east winds. The Power Fire burned approximately 16,993 acres on the Eldorado National Forest (ENF) and on private timberlands. The project area is the approximately 12,237 acre portion of the Power Fire on National Forest lands within the Amador Ranger District administrative boundary outside of the Mokelumne Wilderness. The project area includes portions of the Cole Creek, Bear River, and Panther Creek watersheds.

The fire burned with varying intensity. Approximately 38 percent burned with low intensity, as measured using aerial photos and field sampling. Many areas of the fire (approximately 48%) burned at high intensity, killing 75 to 100 percent of the trees and burning the duff and litter that protect the soil. Another

13 percent burned with moderate intensity, killing 25 to 75 percent of the trees. In the high and moderate intensity areas the fire resulted in high rates of soil erosion, sedimentation to streams, destruction of wildlife habitat for sensitive species, and loss of old forest. The fire killed tens of thousands of trees that, if left untreated, will contribute to extremely high fuel loading over time. As these dead trees fall and fuel accumulates, future fires will be even more severe. Without treatment to begin to restore the fire area, significant additional impacts to soil, water quality, cultural resources, and wildlife habitat are likely over the short and long term.

The Sierra Nevada Forest Plan Amendment Record of Decision (SNFP ROD) provides for ecosystem restoration following catastrophic events. These restoration activities are included in all land allocations and call for managing disturbed areas for long term fuels profiles, restoring habitat, and recovering the value of some dead and dying trees (SNFP ROD, pg. 6). SNFP land allocations within the Power Fire boundary are 58 percent old forest emphasis, 27 percent threat zone, 4 percent defense zone, and 11 percent wilderness. Protected activity centers (PACs) for spotted owls and goshwaks, spotted owl home range core areas (HRCAs), and riparian conservation areas (RCAs) adjacent to perennial, seasonal and ephemeral, streams overlay the other land allocations. A portion of the Mokelumne Wilderness and the Salt Springs State Game Refuge are within the fire area. The Mokelumne River, Bear River, Beaver Creek, Cole Creek, and Green Creek, having outstandingly remarkable cultural resource values, are eligible for possible inclusion in the National Wild and Scenic River system. Of the 15,398 acre South Fork of

the Mokelumne Archaeological District, 11,131 acres are located within the Power Fire. This District has been determined to be eligible for inclusion in the National Register of Historic Places. Due to its high archaeological significance, the Mokelumne Canyon is designated as a Special Interest Area with the Eldorado's Land and Resource Management Plan. The statement of significance concluded that the "Mokelumne Canyon is one of the most significant archaeological areas within the ENF.

The goal of this project is to move the project area toward desired future conditions as defined by the Sierra Nevada Forest Plan Amendment (SNFP ROD, pgs. 36-48). These desired conditions by land allocation are described in detail in Table 1-1 of the FEIS, pgs. 8-9. Desired conditions for defense zones include surface and ladder fuel conditions such that crown fire ignition is unlikely. Desired conditions for threat zones include flame lengths less than four feet at the head of a fire, reductions in rate of spread and hazards to firefighters, and a doubling of fire line construction rates. In RCAs, desired conditions include meeting the goals of the Clean Water Act and Safe Drinking Water Act; species composition and structural diversity providing suitable habitat for aquatic and riparian associated species; soils with favorable infiltration characteristics; and the physical structure of streambanks and shorelines that minimize erosion and sustain desired habitat diversity.

Purpose and Need for Action

1. **There is a need to reduce long term fuel loading for the purpose of reducing future fire severity and resistance to control:** Meeting the desired conditions for old forest and old forest dependent wildlife requires survival and

growth of individual trees and forested stands over the next 100 to 250+ years without the occurrence of another stand replacing fire. Preventing another stand replacing fire involves a combination of fuel treatments to modify fire behavior and effective suppression. In areas where the fire intensity was moderate to high, surface fuel loading is very low. As dead trees fall over time surface fuels will increase significantly, affecting future fire behavior and suppression. Excessive large woody debris can lead to difficulty in suppressing wildfires. Hand fire line construction is significantly slowed where fire lines intersect numerous large logs. This is referred to as "resistance to control" and can lead to larger fires since

[Picture Omitted]

fire lines have to be relocated to areas of less woody debris or where tractor fire lines can be built. Large woody debris may also increase fire severity, further impacting impaired watersheds, soils, and archeological sites. Excessive small woody debris, from small trees and limbs of larger trees, increases a fire's rate of spread and fire line intensity affecting the ability to suppress the fire and the ultimate fire size. Dead trees that aren't removed, will contribute to extremely high fuel loading within 5 to 10 years. Many of the snags that were left standing following the Cleveland fire in 1992 have fallen over in the intervening 12 years. The potential for a wildfire start is high due to proximity to a Pacific Gas and Electric Company (PG&E) distribution line that runs through the canyon, recreational use, and lightning. Predicted fire behavior modeling of timber stands and fuel types that are representative of current conditions, indicates that high intensity fire with

rapid rates of spread would be likely under moderate weather conditions[1] [*sic*]. Without additional treatment to begin to reduce fuel loads, wildfires are likely over the short and long term.

2. There is a need to reduce sedimentation to streams and erosion from roads and hillslopes for the purpose of protecting soil productivity and water quality for benefical uses: Portions of the project area that burned at high intensity are void of effective ground cover (limbs, twigs, small boles) and soil organic material as a result of the fire, leading to soil erosion and potential loss of productivity. Runoff and erosion rates are expected to

[Picture omitted]

be high, and many areas have steep slopes, increasing the hazard for soil erosion and transport of sediment to streams. Native surfaced roads have the potential to channel runoff and increase sedimentation to streams. Sediment delivered to streams impairs water quality and has the potential to impact downstream beneficial uses of water, including municipal water supplies. The Mokelumne River is the source of drinking water for the East Bay Municipal Utility District (EBMUD), which serves 1.3 million customers in the eastern San Francisco Bay Area.

[Picture omitted]

3. There is an urgent need to recover the volume and value of timber killed or severely injured by the fire for the purpose of generating funds to offset the cost of restoration activities: Dead trees deteriorate rapidly relative to wood quality, volume, and value. By the first year following the fire, most trees have significant worm holes and cracks, culling about one third of the cubic

volume on trees between 11 and 24 inches diameter (Bodenhausen 2002). By the second year, 47 to 74 percent of the volume of trees less than 24 inches diameter is lost (Lowell et al. 1992). Larger trees deteriorate more slowly, but even trees as large as 40 inches diameter will lose nearly half their volume to decay by the second year (Lowell et al. 1992). This volume loss corresponds to significant value loss. The first year after a fire, the value of trees removed will cover the cost of their removal and associated fuel treatment and can be used to pay for restoration work. Opportunities for restoration work that can be funded by this timber value include reducing erosion from roads, treatment of fuels, future reforestation, and wildlife and watershed improvement projects. By the second or third year after a fire, the value and volume loss may preclude any economic return, thereby jeopardizing the availability of funds for restoration and meeting the other purposes of the project.

[Picture omitted]

4. **There is a need to reduce safety hazards to the public and forest workers:** Dead and defective trees pose a significant safety hazard to forest visitors and workers.

Decision and Rationale for Decision

Decision

Based upon my review of the alternatives, I have decided to implement Alternative 4 as described in the Final Environmental Impact Statement (FEIS).

My decision is based upon a careful consideration of the information and analysis contained in the FEIS and all of the supporting documentation, including the public

comments on the Draft Environmental Impact Statement (DEIS). This environmental analysis process was conducted in accordance with the National Environmental Policy Act (NEPA) and the direction provided in the Forest Service Manual. Alternative 4 is consistent with the goals and objectives of the Eldorado National Forest LRMP as amended by the SNFPA.

Rationale for Decision

When compared to the other alternatives, Alternative 4 meets the purpose for the project and is the alternative that best meets most of the needs identified for this project. I considered each of the needs as a factor in my decision and provide the rationale for my evaluation of each alternative against those needs.

Needs:

1. **The need to reduce long term fuel loading for the purpose of reducing future fire severity and resistance to control.**

Given the estimated fire return interval for the Power Fire area of 9.1 years (FEIS pg 79) and the estimated length of time to achieve old forest conditions (100 to 250 years), it is inevitable that fires will burn within the project area before the old forest structure and function can return. Actions taken now can influence the extent and intensity of future fires by determining the amount and configuration of fuel load in the Power Fire area. Comparing the total fuel loading, measured in tons of down woody fuel over time, is one way to evaluate the alternatives (FEIS pg 58 comparison of alternatives chart). Alternative 4 best meets this need by retaining the least total fuel loading over most of the project area. This will help reduce the intensity of

future fires and will reduce the "resistance to control" when fires do occur (FEIS pgs 93-100 and 109-110). Direct attack of small fires within the 732 acres of snag retention clumps and the PAC non-core areas may be precluded due to fire fighter safety. The areas outside of snag clumps and PAC non-core would have a low resistance to control, would be safe for firefighters to construct fire lines along the fire's edge, would contribute to more effective fire suppression and contain fires to a smaller size.

The no action alternative, Alternative 1, results in high fuel loadings over time, particularly in the 1000-hour fuels (>3" diameter). There is abundant scientific evidence that increased fuel loads can result in increased fire intensity and severity. The severity of fire effects and difficulty in fire suppression are primarily associated with the total amount of fuel available and consumed (Martin and Brackebusch 1974). In other words, given the same weather and topographic conditions, areas with high fuel loads will release more energy (burn hotter), exhibit longer flame lengths, have greater potential to convert to crown fires, be more difficult to contain, pose greater risks to firefighters, kill more vegetation, and damage soils more severely than areas with lower fuel loads. Fuel loading contributes to high resistance to control. High snag and log levels impede fire line construction, increase safety hazards, increase spotting potential, and increase fire severity. Containment lines must be constructed far from the fireline where it is safe and practical to do so, ultimately increasing fire size. Increased soil heating from burning logs kills soil microorganisms and reduces soil productivity.

Alternatives 2 and 5 reduce long-term fuel loading; however, in areas where four to six snags per acre are retained it would be unsafe for effective firefighting and fuel levels by year 25 would be high enough to seriously impede fire suppression and contribute to severe soil heating. Portions of the threat zone and the ridgetop fuelbreaks would be the only locations available for safe fire line construction. Direct attack on small fires in spotted owl protected activity centers (PACs), general forest, and old forest emphasis areas may be precluded due to fire fighter safety. Fires would therefore become larger and more intense as indirect methods are employed.

Alternative 3 increases fuel loading substantially in areas where there are many fire damaged and dying trees. As these trees die over time, they will be retained as snags in areas that are not economical to reenter, such as steep ground (approximately 75 percent of the treated area). These higher snag and log levels would have similar effects as described under Alternative 1.

2. **The need to reduce sedimentation to streams and erosion from roads and hillslopes for the purpose of protecting soil productivity and water quality for beneficial uses.**

The fire has resulted in a significant increase in sediment delivery to some streams. This will continue for the next several years under all alternatives, which in turn may affect downstream beneficial uses of water. Alternatives 2, 3, and 4 may add slightly to the risk of impacts to downstream beneficial uses of water; alternative 5 would result in a negligible increase in such a risk. Alternatives 2, 3, 4, and 5 will improve the existing road system, reducing chronic sources of sedimentation.

Snag retention will provide recruitment of in-stream large woody debris. Hydrologically sensitive areas and steep slopes will be protected through equipment exclusion zones and a number of other protection measures. The extent that each alternative provides for short-term effective ground cover was also used as a measure of meeting this need. Alternative 1 would result in higher soil erosion than the other alternatives because the amount of effective ground cover provided from natural needle and limb fall is unlikely to be sufficient to reduce erosion rates in the short term in high severity burn areas lacking vegetation. Alternatives 2, 3, 4, and 5 are similar in reducing erosion as mechanical treatment of dead trees will provide limbs from trees for ground cover. Alternative 5 best meets this need because ground cover is increased while ground disturbance is minimized by the use of helicopter logging.

Over the mid to long term, Alternative 4 will provide for greater watershed protection than other alternatives because Alternative 4 reduces the risk of severe impacts to soils and beneficial uses of water from another wildfire. Alternative 4 reduces fuel loading and improves resistance to control, thereby increasing the potential to suppress fires during initial attack when they are small, with less impact to soil cover; and less potential for destruction of soil organisms and organic matter from lethal temperatures (FEIS pgs. 90-91, 102, 106, 109-110, 124, 131, 133)

3. **The urgent need to recover the volume and value of timber killed or severely injured by the fire for the purpose of generating funds to offset the cost of restoration activities.**

This element highlights the need to make a decision about removing dead trees within the Power Fire in a timely manner. This factor also highlights the relationship between the economic value of the dead trees and meeting the other ecological and social needs for action. The economic value, in terms of wood quality, decreases rapidly in dead trees with the potential for substantial loss within 3 years (FEIS pgs 255-256). Trees that were immediately killed by the fire will have 10 months worth of decay by the time this project is implemented and some of the smaller diameter dead trees may have already lost all economic value. By the second year following the fire, about 65% of the wood volume will be lost to decay (FEIS pg. 255; Emergency Situation Analysis for the Power Fire Restoration Project). Deterioration of the fire-killed and damaged trees has a number of impacts. Lumber quality is reduced, merchantable volume of wood is reduced, and most importantly, value is reduced. This reduction in value impacts the revenue the Federal Government receives from stumpage and it also impacts the ability to cost effectively remove the dead trees at all. Ultimately, after trees have significantly deteriorated, the cost of removal far exceeds the value of the trees, and the Government is faced with the dilemma of an increasing fuel load and no funds available to mitigate the impact. In California, there are numerous examples of recent fires where delay caused no-bid timber sales and the timber was not harvested because of deterioration rendering the trees worthless in the marketplace and unsafe to harvest. On

the Gap Fire of 2001 on the Tahoe National Forest, one year after the fire the value of the trees dropped below the cost of removing them with helicopters. The consequence was an estimated $400,000 loss of timber value that impacted the ability to treat fuels (refer to the Emergency Situation Analysis prepared for the Power Fire Restoration Project). On the Star Fire on the Tahoe National Forest, delay caused an estimated $2,600,000 loss in timber value. This amount of money could have paid to hand pile at least 4,300 acres of fuel on steep terrain (refer to the Emergency Situation Analysis prepared for the Power Fire Restoration Project).

Delay will diminish the opportunities to utilize dead trees to benefit human needs, lessen the ability to leverage the timber value to treat fuels, repair and improve roads, and fund other restoration treatments, and reduce our ability to meet the long term goals and achieve the purpose and need for the project. For these reasons, I requested, and the Chief, Forest Service approved, an emergency situation as provided by 36 CFR 215.10

Alternative 4 generates the greatest revenue: $19,056,425 (expected stumpage payments) which is sufficient to cover the costs of road improvements, fuel treatments, and future reforestation if any. Alternative 1 does not meet this need because no revenue would be generated and future restoration costs such as fuel treatment and potential reforestation would be entirely dependent upon appropriated or other funding sources, which is unlikely to be available. Alternative 2 generates an estimated $13,916,229; Alternative 3 generates an estimated $11,924,641; and Alternative 5 cost is esti-

mated to exceed revenue by $1,728,823. All action alternatives, except Alternative 5, generate sufficient funds to pay for fuel treatments and road improvements.

4. **The need to reduce safety hazards to the public and forest workers from failing trees.**

All action alternatives reduce the risk of falling snags to some extent, but no alternative completely eliminates the risk. Alternative 4 best reduces the risk by prescribing the most acres with lower snag levels. Clumping snags into retention patches further minimizes risks to the public and forest workers within the project area. Alternative 1 has the highest risk to public and forest worker safety since all dead trees will remain. In the short-term, the risk to the public entering the Power Fire area is great as smaller trees will tend to be susceptible to falling soon and the tops of larger trees will begin to fall, especially in the winter. The risk of falling trees will eventually preclude safe fire fighting and future restoration work due to the potential to injure or kill a person working in the fire area.

I also considered the public comments and the significant issues in making my decision. Alternative 4 is responsive to the public comments and addresses most of the significant issues (FEIS Chapter 1, pages 19-20).

Issues:

1. Whether use of the Pacific Southwest Region Forest Health Protection Staff's mortality guidelines presents an unacceptable risk of cutting trees that would have survived their fire injuries: There is a trade-off between minimizing the risk of cutting a live tree and the need to repeatedly log the same ground to remove trees as they die. There is a high likelihood that repeat

entries would be made in ground based logging units, and a lower probability in skyline and helicopter logged areas. The latter systems are more costly and dependent on higher volumes per acre for economic feasibility. Repeat entries increase the risk of soil disturbance, erosion, and compaction. Lack of repeat entries increases the number of snags retained and correspondingly increases the long-term fuel accumulation. In the Star Fire, where mortality guidelines were not used, 22 percent additional cubic volume of timber was removed in the second and third re-entry on tractor units. No reentry occurred on skyline and helicopter logged areas. Alternative 3 does not use mortality guidelines, except for hazard trees, and consequently there is a higher risk of significantly increasing the number of snags retained and associated fuel accumulation. The other alternatives, including Alternative 4, mitigate the risk of cutting trees that would otherwise survive by utilizing the latest and most comprehensive scientific assessment of tree mortality following wildfire in California (Hood et al. 2005). The latest science assessing fire related mortality provides models that allow managers to select the desired level of predicted mortality based on land management objectives. Tree marking guidelines are derived from the probabilities, as described in the FEIS on pages 75 and 76 and in Appendix F. For Alternatives 2, 4, and 5, I selected a more conservative probability of mortality for areas where ground based logging was proposed, and a slightly less conservative probability of mortality where aerial logging systems were proposed as displayed in the table below.

Table 1. Probability of Tree Mortality as applied to Alternatives 2, 4, and 5

	PP/ JP/ SP	White Fir	Incense Cedar	Red Fir	Douglas Fir*
Tractor Logging System					
Correctly Predicted Mortality (%)	96	95	100	100	-
Correctly Predicted Surival (%)	51	63	88	-	-
Helicopter and Skyline Logging System					
Correctly Predicted Mortality (%)	90	87	85	100	-
Correctly Predicted Survival (%)	65	74	89	-	-

* Marking guidelines for Douglas fir are based on Ryan and Reinhardt (1988).

As displayed in the table, the guidelines for tractor logged areas reduce the chance of trees being cut which might otherwise have survived, while accepting a relative high probability of many additional trees which do not meet the guidelines subsequently dying. Marking guidelines for helicopter and skyline logging result in a slightly higher potential of trees being cut which might otherwise have survived, and a lower probability of additional trees, which do not meet the guidelines, subsequently dying.

The rationale for a more conservative mortality marking guide in tractor logged areas stems from experience in previous fire salvage sales as described above. Since tractor logged areas are typically re-logged when significant numbers of additional trees die, fuel loading from additional dead trees can be mitigated. In order to mitigate the fuel accumulation from delayed mortality on steep slopes, more of the dying trees need to be removed initially because high yarding costs, setup time, and limited equipment availability make it unlikely that helicopter or skyline units would be re-logged to capture mortality occurring after the initial logging.

2. Whether ground based and "cable" logging would result in unacceptable impacts on soil and downstream beneficial uses of water: Alternative 4 will improve the existing road system, reducing chronic sources of sedimentation. Snag retention will provide recruitment of in-stream large woody debris. Hydrologically sensitive areas and steep slopes will be protected through use of aerial logging methods, equipment exclusion zones, application of Best Management Practices and a number of other protection measures described in the FEIS on pages 41-44, which I believe will be effective based on

monitoring on other projects and my background and experience as a hydrologist. While Alternative 5 was designed to address this issue, and would minimize ground disturbance, it is very expensive to implement and I do not believe the perceived benefits justify the high cost.

3. Whether the leaving of four to six of the largest snags per acre and all snags in some riparian areas would result in excessive fuel loading, contribute to an unacceptable safety hazard for recreationists and retains too much economic value as snags: I agree that the leaving of four to six snags over the landscape would result in excessive fuel loading as I discussed above under Need 1. Alternative 4 provides high levels of snags for wildlife but arranges them in patches. This reduces fuel loading outside the patches, and improves safety for workers and the public.

4. Whether the snag retention proposed provides enough suitable habitat for black-backed woodpeckers, hairy woodpeckers, and other birds that utilize high levels of snags in burned forests: Alternative 1 retains all snags, thereby maximizing habitat for cavity-nesting species, but fails to meet the needs identified for the project as articulated above and in the FEIS. Cavity-nesting birds are management indicator species for the ENF, but are not threatened, endangered, or sensitive. There are many cavity-nesting bird species that find habitat in the Power Fire, and under the ENF Land Management Plan I am charged with providing medium capability habitat for a suite of species. Alternative 4 provides high levels of snags for cavity-nesting birds potentially using the fire area, but arranges them in patches as well as distributed in PACs and RCAs. The

patches are located in areas of large trees (WHR size class 4 and 5), but contain both large and small trees. Alternative 4 meets the needs of species that are associated with burned forest habitat, such as hairy and black-backed woodpeckers, as well as species that are snag habitat generalists and species associated with forest environments. In addition, high quality snag habitat is provided in the Mokelumne Wilderness Area, which is untouched by this project. In total, all dead trees on more than half of the fire area are retained under Alternative 4.

Alternatives 2, 3, and 5 provide for large numbers of large snags as well. These alternatives rely on retaining an overall average of four snags per acre in the largest size classes, so the distribution of snags would likely be somewhat dispersed since it is based on the distribution of large trees. Species like the hairy and black-backed woodpeckers that are associated with burned forests would benefit less from these alternatives than Alternative 4.

Public Involvement

The Notice of Intent to prepare an Environmental Impact Statement was published in the Federal Register December 22, 2004. A brief description of the location and type of project was included in the ENF Schedule of Proposed Actions (SOPA) in January 2005. Approximately 134 letters were mailed out to adjacent property owners, potentially affected businesses, tribes, federal, state, and local agencies, and special interest groups. The letter contained the detailed proposed action, map, and methods for participation. The mailing list is included in the project record. An article was published in the Mountain Democrat describing the

proposed action. As a result of scoping, 50 comment letters were received from 93 individuals and groups. The Notice of Availability of the draft EIS was published in the Federal Register on March 25, 2005 and the 45-day comment period commenced. The DEIS and/or summary was sent to 90 individuals, groups and government agencies. On several occasions, field trips were taken to the project area for interested individuals and groups. A public meeting was held in April, 2005 to discuss the Draft EIS. Presentations were made to a number of organizations and groups, including East Bay Municipal Utility District, Amador County Board of Supervisors, Amador Watershed Council, Sierra Nevada Native American Council, Amador County Resource Conservation District, California Forestry Association, Amador County Fire Safe Council, Amardor-Eldorado Forest Forum, and the Mokelumne River Association. The 45-day comment period ended on May 9, 2005. Twenty comment letters were received (FEIS Appendix L). Comments were assessed and considered. Responses were given and the following actions were taken: alternatives were modified; an additional alternative was developed, considered, and eliminated from detailed study; factual corrections were made; and the environmental consequences were supplemented (FEIS Appendix M).

After reviewing the public scoping comments, I approved the following significant issues to generate alternatives:

- **Whether use of the Pacific Southwest Region Forest Health Protection Staff's mortality guidelines presents an unacceptable risk of cutting trees that would have survived their fire injuries:**

During scoping, concerns were expressed about the use of these guidelines and the effects on live trees. We believe these guidelines to be the best available science applicable to the project area; they were developed based on scientific literature on this subject, extensive post-fire monitoring in the Sierra Nevada, and professional judgment. However, predictions of mortality are not an exact science. The probabilities are high that trees meeting the mortality guidelines are dead and dying, however, there is a small probability that trees meeting the guidelines would survive as well as trees not meeting the guidelines would die. The concern by some respondents is that the probabilities are not accurate enough and any risk of cutting a tree that would otherwise survive is too much. These respondents point out that retention of all live trees, particularly large trees, is important for seed sources, shading, and wildlife habitat, and requested an alternative that does not utilize mortality guidelines.

- **Whether ground based and "cable" logging would result in unacceptable impacts on soil and downstream beneficial uses of water:** In some scoping comments, disagreement related to effects of the Proposed Action on soil compaction, erosion, and sedimentation were expressed. Several studies were cited supporting these concerns. In particular, some respondents were concerned that ground based and "cable" logging in moderate to high severity burn areas would exacerbate erosion and sedimentation. Technically speaking, cable logging refers to dragging logs with the use of cables suspended from a tower sitting on a

road, and may not necessarily imply full or partial suspension of the logs above the ground. The proposed action utilizes "skyline" logging techniques which require full or partial suspension of the logs as they are brought up the hill. For purposes of this issue however, we assumed that "cable" logging and "skyline" logging were synonymous. These respondents requested an alternative that does not utilize ground-based or cable logging techniques.

- **Whether the leaving of four to six of the largest snags per acre and all snags in some riparian areas would result in excessive fuel loading, contribute to an unacceptable safety hazard for recreationists and retains too much economic value as snags:** There was also concern that concentrations of woody material left adjacent to stream courses could predispose these areas to catastrophic reburn and contribute to debris jams that block culverts and divert watercourses. The issue was addressed by developing an alternative to the proposed action.
- **Whether the snag retention proposed provides enough suitable habitat for black-backed woodpeckers, hairy woodpeckers, and other birds that utilize high levels of snags in burned forests:** Some respondents assert that the proposed action would reduce the viability of these species, since studies indicate these birds preferentially use unsalvaged burned forests for foraging. This issue was addressed by developing an alternative to the proposed action.

Alternatives Considered

In addition to the selected alternative, I considered 4 other alternatives, which are discussed briefly below and in more detail on pages 21 to 54 of the FEIS. A detailed comparison of these alternatives can be found in Chaper 2, pages 55 through 62 of the FEIS.

Alternative 1 is the No Action alternative. Under this alternative no dead tree removal or treatment would occur. Road maintenance and repair and projects associated with the burn area emergency response (BAER) would continue.

Alternative 2 is the original Proposed Action. Under this alternative all dead and dying trees in the Mokelumne Wilderness, PAC "core" areas, areas within the distance limitations prescribed for perennial streams, oak stands, and large contiguous low intensity burn areas would be retained. All dead and dying trees would be retained in patches of suitable spotted owl or goshawk habitat outside of PACs unless significant additional mortality develops rendering the habitat unsuitable. All dead and dying trees in low intensity burn areas with mortality of less than 25 percent would be retained, unless mortality increases sufficiently to meet the snag retention guidelines and is economically feasible to treat. All existing down logs and cull logs greater than or equal to 20 inches small end diameter and over 10 feet long generated from logging would be retained, and standing snags would be retained in variable numbers and sizes in riparian conservation areas, threat zones, defense zones, general forest, old forest emphasis, and unsuitable burned habitat in PACs. Roadside hazard trees would be removed. Logging would occur using helicopter, skyline, and ground-based

machinery. Protection of RCAs, sensitive plants, cultural resources, and wildlife would occur. Treatment of fuels and manipulation of ground cover would occur. Roads would be reconstructed, surfaced, and maintained to improve watershed condition.

Alternative 3 was developed in response to the issue concerning use of mortality guidelines and is similar to Alternative 2 except mortality guidelines that predict which trees will die of their injuries would not be used to mark trees for harvest. Protection measures, treatment of fuels, and road improvements are the same as for Alternative 2.

Alternative 4 was developed in response to the third and fourth significant issue dealing with snag retention for wildlife and is the preferred alternative. Alternative 4 modifies the proposed action to retain dead trees in 732 acres of patches over the landscape. Outside of PACs and RCAs, this alternative was designed to leave snags for wildlife in varying sized patches instead of as individual trees spread over the landscape, avoiding ridges, roads, powerline, flume, and private land. As first priority, patches are located in WHR size class 5 stands where mortality exceeds 50 percent. Second priority is WHR size class 4 where mortality exceeds 50 percent. Snag retention in perennial and seasonal RCAs and PACs and protection measures, treatment of fuels, and road improvements are the same as for Alternative 2.

Alternative 5 was developed in response to the second issue concerning impacts of ground based logging systems and modifies the proposed action to replace skyline and ground based logging with helicopters except that ground based logging would be permitted on

slopes generally less than 35 percent to remove roadside hazard trees. In all other respects, this alternative is the same as Alternative 2.

All action alternatives employ design criteria to prevent erosion, improve soil infiltration, protect sensitive plants, protect sensitive wildlife, protect archeological resources, protect stream courses, prevent the introduction of noxious weeds, reduce the potential for adverse cumulative watershed effects, protect beneficial uses of water, protect public safety, and protect trails, as discussed in the FEIS on pages 41 to 44.

Monitoring of best management practice implementation and effectiveness, fish and herptofauna occupancy, spotted owl and goshawk occupancy, stream turbidity, and noxious weed populations will be conducted as part of all action alternatives (FEIS pg. 44).

Alternative Considered but Eliminated from Detailed Study

Federal agencies are required by NEPA to rigorously explore and objectively evaluate all reasonable alternatives and to briefly discuss the reasons for eliminating any alternatives that were not developed in detail (40 CFR 1502.14). Public comments received in response to the Proposed Action provided suggestions for alternative methods for achieving the purpose and need.

An alternative that defers action until 15 years post fire was proposed by some members of the public. Under such an alternative the surface fuels would be piled and burned and felling of small snags for ground cover could occur. This alternative was eliminated from detailed study because it does not accomplish the

purpose and need for the project. Specifically, this alternative does not generate any revenue that could be used to offset the costs of the fuel treatment or any other restoration activity. This alternative would retain nearly all dead material on site, increasing safety hazards and fuel loads over time to unacceptable levels. By 15 years post fire, dead trees would be significantly deteriorated to a point that it would be extremely hazardous to perform any of the treatments this alternative would require (FEIS pg. 45). Even if the work could be done safely, piling and burning of surface fuels is expensive on large areas of steep slopes, exceeding four million dollars as displayed on page 46 of the FEIS. Additionally, this alternative would not generate any effective ground cover in the short term in high intensity burn areas.

An alternative that retains all dead trees greater than 15 inches in diameter was proposed. This alternative would fell and lop smaller trees for ground cover, and treat small sized fuels through piling and burning. This alternative would preclude skyline logging due to the prevalence of trees greater than 15 inches that would interfere with skyline corridors. It is assumed that all areas proposed for skyline logging would be helicopter logged instead. This alternative responds to the issue of whether there is a need to remove large dead trees (over 15") to reduce future fire severity and intensity. Some respondents assert that "by the time most of the large snags have fallen and substantially decayed, the small snags, and branches and tops from large snags, will have long since fallen and decayed into soil." These respondents requested an alternative that retains all dead trees over 15-inch diameter. Based on fuels modeling displayed in the FEIS on pages 47 and

48, and the effects on fire behavior and resistance to control, this alternative fails to meet the purpose and need for the project. This alternative fails to reduce future fire intensity and would lead to significant tree mortality in the event of a fire, hindering or reversing the growth of future forest. In addition, numerous snags would continue to inhibit or preclude safe fire-fighting practices within the project area; the alternative is not practical or capable of being implemented because there is little economic value in trees less than 15 inches to generate sufficient funds for fuel treatment and other restoration treatments; and future fires would likely have significant and long-lasting damage to soil productivity.

An alternative was proposed in response to comments about the DEIS. The alternative would retain all dead trees greater than 24 inches diameter, triple the number of snag patches identified for Alternative 4, and remove only dead trees with no green needles. The purpose of this alternative was to increase the habitat available for black-backed, and other woodpeckers, and provide additional snags for legacy structure for future forest. Following discussions with proponents, the proposed alternative was amended to retain four of the largest snags per acre (as in Alternative 2), retain one half of the high mortality (>75% mortality) areas outside the Mokelumne Wilderness in CWHR size class 4 and 5; or 40 percent of the high-mortality areas in size class 4 and 5 plus two-thirds of the available size class 3, in snag patches greater than 50 acres in size (approximately 2,620 acres), and remove only dead trees with no green needles. This alternative was eliminated from detailed study because it does not accomplish the purpose and need for the project to reduce long-term fuel

loading, reduce safety hazards to forest workers, and increase ground cover in the short term in high intensity burn area.

Environmentally Preferable Alternative

The NEPA implementing regulations (Section 1505.2) require that the alternative(s) that best promotes the national environmental policy as expressed in NEPA, Section 101, be identified in the Record of Decision as the "environmentally preferable Alternative" or alternatives. This is ordinarily "the alternative that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources" (FSH 1909.15, 05). For the Power Fire Restoration project, I believe Alternative 5 is the environmentally preferred alternative in the short term. This is because alternative 5 results in the least ground disturbance while improving roads and providing effective ground cover to help reduce soil erosion and sedimentation to streams. Alternative 4 is the environmentally preferable alternative in the mid to long term because it reduces fuel loading and improves resistance to control in the event of another wildlife. Alternative 4 will improve the chances of keeping future wildfires small and reduce the severity of future fires. For this project, all of the action alternatives provide protection to the environment by their design, management requirements, and built-in mitigations. All action alternatives comply with NEPA's purpose and spirit.

Findings Required by Other Laws and Regulations

All management practices and activities of Alternative 4 are consistent with the management direction of the ENF Land and Resource Management Plan (LRMP) as amended.

Clean Air Act

The Clean Air Act makes it the primary responsibility of States and local governments to prevent air pollution and control air pollution at its source. States must have a plan that provides for implementation, maintenance, and enforcement of the primary ambient air quality standard. The State of California has a plan. This project meets the Clean Air Act.

Clean Water Act

Federal agencies are required by the Clean Water Act to cooperate with State agencies in preventing, reducing, and eliminating pollution in concert with programs for managing water resources. This project meets this requirement through the incorporation of best management practices and other design features (FEIS pgs. 41-44, Appendix B). This project meets the Clean Water Act.

National Environmental Policy Act (NEPA)

The NEPA requires that Federal agencies complete detailed statements on proposed actions that significantly affect the quality of the human environment. The Act's requirement to prepare an environment impact statement is designed to provide decision makers with a detailed account of the likely environmental effects of a proposed action prior to adoption and to inform the public of, and allow it to comment on, such effects. The

FEIS does a comprehensive job of analyzing the alternatives and displaying the alternatives and displaying the environmental effects. The procedural requirements of the NEPA have been followed.

National Forest Management Act (NFMA)

Projects occurring on NFS lands must meet minimum specific management requirements under 36 CFR 219.27 (1982). This project and the FEIS address each as follows:

- The management prescriptions discussed in the FEIS meet all of the resource protection requirements of the CFR.
- The requirement for vegetative manipulation is not applicable to this project because this project involves salvage of fire-killed trees and does not involve the manipulation of tree cover.
- The project was reviewed by a certified silviculturist and found to be in compliance with all aspects of the silvicultural practices requirement.
- The even-aged management requirement does not apply.
- This project is consistent with the requirements for riparian areas.
- This project meets the requirements for soil and water.
- Biological Evaluations considered effects to Forest Service sensitive species. The Biological Evaluations determined that the project was not likely to result in a loss of viability for any sensitive species.

Endangered Species Act (ESA)

Section 7(a)(2) of the Endangered Species Act requires that Federal agencies consult with the United States Fish and Wildlife Service and National Marine Fisheries Service, as appropriate, to ensure that their actions do not jeopardize the continued existence of species listed as threatened or endangered under ESA, or destroy or adversely modify their critical habitat.

A biological assessment was prepared for federally proposed, threatened or endangered wildlife species and their critical habitat. Implementation of the project would have no effect on any threatened or endangered species including bald eagle, red-legged frog, valley elderberry long-horn beetle, central valley spring run Chinook salmon, central valley steelhead, delta smelt, or Lahontan cutthroat trout. Therefore, no consultation was necessary with the United States Fish and Wildlife Service. No botanical species are federally proposed, threatened or endangered.

National Historic Preservation Act

The ENF has determined that this project will have an adverse effect on The Mokelumne Archeological District, determined to be eligible for inclusion in the National Register of Historic Places (historic district) according to the criterion in 36 CFR 60.4(d), and pursuant to 36 CFR § 800.5(d)(2). In consultation with the State Historic Preservation Officer (SHPO), the ENF has resolved any potential adverse effects by executing a Memorandum of Agreement (MOA) pursuant to 36 CFR 800.6. This agreement was signed July 29, 2005.

The procedures and stipulations of this MOA include professional standards, Native American Consultation, and the identification and treatment of cultural resource values. As stipulated in the MOA, the cultural resource values will be protected throughout the project using Standard Resource Protection Measures within the "Programmatic Agreement Among the U.S.D.A. Forest Service, Pacific Southwest Region, California State Historic Preservation Officer, and Advisory Council on Historic Preservation Regarding the Identification, Evaluation and Treatment of Historic Properties Managed by the National Forests of The Sierra Nevada, California" (1996).

The primary protection measure will include avoidance of ground disturbing activities, project modification, padding and rocking of any road reconstruction, and the removal of trees posing a hazard to cultural resource values. Removal of these trees will be accomplished using methods appropriate to the site constituents, ground, and harvest conditions. These methods may include hand bucking and carrying; rubber tired loader using full suspension or skyline; crane/self loader; and helicopter.

Implementation Date

The Chief of the Forest Service has determined that an emergency situation exists for 7006 acres of the project area as provided for in 36 CFR 215.10. Implementation may begin immediately for that portion of the decision determined to be an emergency.

Administrative Review or Appeal Opportunities

This decision is subject to administrative review (appeal) pursuant to 36 CFR Part 215. The appeal must

be filed (regular mail, fax, email, hand-delivery, or express delivery) with the Appeal Deciding Officer at: Bernard Weingardt, Regional Forester, USDA Forest Service, Regional Office R5, 1323 Club Drive Vallejo, CA 94592, fax: (707) 562-9229.

The office business hours for those submitting hand-delivered appeals are: 8:00 am to 4:30 pm Monday through Friday, excluding holidays. Electronic comments must be submitted in a format such as an email message, plain text (.txt), rich text format (.rtf), or Word (.doc) to appeals-pacificsouthwest-regional-office@fs.fed.us. In cases where no identifiable name is attached to an electronic message, a verification of identity will be required. A scanned signature is one way to provide verification.

Appeals, including attachments, must be filed within 45 days from the publication date of this notice in the Mountain Democrat, the newspaper of record. Attachments received after the 45 day appeal period will not be considered. The publication date in the Mountain Democrat, newspaper of record, is the exclusive means for calculating the time to file an appeal. Those wishing to appeal this decision should not reply upon dates or timeframe information provided by any other source. Individuals or organizations who submitted substantive comments during the comment period specified at 215.6 may appeal this decision. The notice of appeal must meet the appeal content requirements at 36 CFR 215.14.

Contact Person

For additional information concerning this decision or the Forest Service appeal process, contact Patricia Ferrell, Interdisciplinary Team Leader, Eldorado

National Forest Supervisor's Office, 100 Forni Road, Camino, CA 95709, (530) 642-5146.

/s/ JOHN D. BERRY
JOHN D. BERRY
Forest Supervisor

08/01/2005
Date

APPENDIX F

RECORD OF DECISION
FREDS FIRE RESTORATION

Eldorado National Forest
100 Forni Road
Placerville, CA 95667
El Dorado County, California

Introduction

The Freds Fire was reported in the late afternoon of October 13, 2004, on the north side of Highway 50 approximately 1½ miles east of the communities of Silver Fork and Kyburz, in EI Dorado County. After ignition, the fire quickly spread across extremely steep slopes, burning through timber and heavy fuels. The fire burned rapidly in a westerly direction, parallel to Highway 50, driven by strong east winds. Highway 50 was closed immediately; the communities of Silver Fork and Kyburz were evacuated, and suppression efforts focused on protecting the towns and their infrastructure. No structures were lost within the communities, but the water systems for Kyburz and Silver Fork were severely damaged. Several outbuildings and vehicles on inholdings within the Forest boundary were destroyed. Hot, dry, and windy weather conditions allowed the fire to burn rapidly for several days, until a major winter storm on October 17 assisted firefighters to contain the blaze. The highway closure and evacuations continued for several more days due to the threat of flash flooding, slope failure, and landslides.

The Freds fire burned approximately 7,700 acres, including about 4,600 acres of the Eldorado National Forest (ENF), about 2,830 acres owned by Sierra Pacific Industries (SPI), and about 280 acres owned by five private landowners within the National Forest. The fire consumed the last section of land with a southern exposure along Highway 50 in the South Fork American River Canyon, which had not burned in recent memory. It burned into the Cleveland Fire on the west and into the Wrights Fire on the east.

The fire burned with varying intensity as displayed in the photo below.

[Picture omitted]

Approximately 12 percent (about 525 acres) burned with low intensity, as measured using aerial photos and field sampling. Many areas of the fire (approximately 61%, 2606 acres) burned at high intensity, killing 66 to 100 percent of the trees and burning the duff and litter that protect the soil. Another 11 percent (about 419 acres) burned with moderate intensity, killing 33 to 66 percent of the trees. In the high and moderate intensity areas the fire resulted in high rates of soil erosion, sedimentation to streams, destruction of wildlife habitat for sensitive species. An additional 694 acres of young plantations burned at high intensity (about 16 %). The fire killed tens of thousands of trees that, if left untreated, will contribute to extremely high fuel loading over time. As these dead trees fall and fuel accumulates, future fires will be even more severe. Without treatment to begin to restore the fire area, significant additional impacts to soil, water quality, cultural resources, and wildlife habitat are likely over the short and long term.

The Sierra Nevada Forest Plan Amendment Record of Decision (SNFP ROD) provides direction for ecosystem restoration following catastrophic events. These restoration activities are included in all land allocations and call for managing disturbed areas to achieve long-term fuels profiles, to restore habitat, and recover the value of some dead and dying trees (SNFP ROD, pg. 6). SNFP land allocations within the Freds Fire boundary are threat zone, defense zone, and general forest (See Map 1-1). There are three protected activity centers (PACs) for spotted owls; spotted owl home range core areas (HRCAs); and riparian conservation areas (RCAs) adjacent to perennial, seasonal, and ephemeral streams. Highway 50 is a state designated Scenic Highway, and the South Fork American River was found to be eligible as a Wild and Scenic Recreation River in 1990. A suitability study has not been completed for the river and it has not been proposed for congressional designation. In addition, the Pony Express Trail, a National Recreation and Historic Trail, bisects the project and is a linear feature that parallels Highway 50.

The goal of this project is to move the area toward desired future conditions as defined by the Sierra Nevada Forest Plan Amendment (SNFP ROD, pgs. 36 to 48). These desired conditions by land allocation are described in detail in Table 1-1 on page 5 of the Final Environmental Impact Statement (FEIS) for the Freds Fire Restoration Project. Desired conditions for **threat zones** (ROD pg. 46) are geared to reduce wildland fire behavior under high fire weather conditions (hot, dry summer days). This includes flame lengths of less than 4 feet at the head of a fire; reductions in rate of spread at the head of the fire; reduction of hazards to firefighters by removing snags from locations likely to be

used for fire suppression; and a doubling of fire line construction rates. Desired conditions for **defense zones** (ROD pg. 45) are fairly open stands, dominated by larger, fire-tolerant trees; surface and ladder fuel conditions such that crown fire ignition is unlikely; and discontinuity of crown fuels that result in very low probability of sustained crown fire. Desired conditions for **general forest** areas (ROD pg. 48) include high levels of horizontal and vertical diversity; trees of varied sizes, ages, and species composition; and enough dead trees, standing and fallen to meet habitat needs of old forest associated species, while allowing for successful establishment of early-seral stage vegetation. Desired conditions for **PACs and HRCAs** (ROD pg. 45 to 46) include at least two tree canopy layers; dominant and co-dominant trees that average at least 24 inches diameter at breast height (dbh); 50 to 70 percent canopy cover; some very large snags; and higher than average levels of snags and down woody material. In **RCAs** (ROD pg. 42), the desired condition is to meet the water quality goals of the Clean Water Act and Safe Drinking Water Act, with streams that are fishable, swimmable, and suitable for drinking after normal treatment.

Purpose and Need for Action

1. **There is a need to reduce long-term fuel loading for the purpose of reducing future fire severity and resistance to control**: The Freds Fire burned approximately 7,700 acres of mixed conifer forest. The fire damaged forest resources such as soil, riparian areas, and wildlife habitat, and killed thousands of trees. In areas where the fire intensity was moderate to high, surface fuel loading is now very low. Over time as dead trees fall surface fuels will increase

significantly, affecting future fire behavior and suppression capabilities. Additionally, it is expected that shrub species will resprout rapidly in many areas of the fire. Excessive large woody debris leads to difficulty in suppressing wildfires. Fire line construction is significantly slowed where fire lines intersect numerous large logs. This is referred to as "resistance to control" and can lead to larger fires since fire lines have to be relocated to areas of less woody debris or where tractor fire lines can be built (on flatter ridgetops for example). Large woody debris also increases fire severity; further impacting impaired watersheds, soils, and archeological sites. Excessive small woody debris, from small trees and limbs of larger trees, increase a fire's rate of spread and fire line intensity, reducing the ability of fire-fighters to suppress the fire and increasing the ultimate fire size. Dead trees that aren't removed, will contribute to extremely high fuel loading within five to ten years. Many of the snags that were left standing following the Cleveland fire in 1992 have fallen over in the intervening 12 years.

[Picture omitted]

The threat of another large wildfire occurring along Highway 50 in the South Fork American River corridor within five to ten years is high. The Highway 50 corridor has had four large wildfires within the past 31 years, Pilliken Fire (1973), Wrights Fire (1981), Cleveland Fire (1992) and Freds Fire (2004) (refer to Freds FEIS, Fire History Map 3-1, Chapter 3, Fire and Fuels). In addition, there have been 40 fires (under 10 acres) since 1908 and 399 fires less than 10 acres since 1970. The potential for a wildfire start is high due to proximity to

the large number of travelers along Highway 50, a Pacific Gas and Electric Company (PG&E) distribution line that runs through the canyon, residential development, recreational use, and lightning. Predicted fire behavior modeling of timber stands and fuel types representative of current conditions, indicates that high intensity fire with rapid rates of spread as likely under moderate weather conditions[1]. Without additional treatment to begin to reduce fuel loads, wildfires are likely over the short and long term, once again threatening the residents of Silver Fork and Kyburz, and the other private landowners in this area.

2. **There is a need to improve road drainage and establish effective ground cover in severely burned areas for the purpose of reducing erosion and sedimentation to streams in the short term and for contributing to long term soil productivity:** Large portions of the project area burned at high and moderate intensity, killing 75 to 100 percent of the trees and burning the duff and litter that protects the soil. These areas are devoid of effective ground cover, leading to soil erosion and potential loss of productivity. Runoff and erosion rates are expected to be high, and many areas have steep slopes, increasing the hazard for soil erosion and transport of sediment to streams. The Highway 50 corridor has experienced several large slope landslides and debris flows/torrents within the large fire areas listed above. Over 600 landslides have been mapped, using air-photo interpretation, along the South Fork of the American

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[1] Moderate weather conditions: temperatures above 80 degrees, light winds, and relative humidity less than 25%.

River/Highway 50 corridor between Pacific House and Echo Summit. Table 1-2, on page 15 of the FEIS,

[Picture omitted]

displays the slope failures and associated fires as well as all landslides identified by the California Geologic Survey that have the potential of reaching Highway 50 within and near the Freds Fire area.

The landslide inventory/history displayed in Table 1-2 shows a trend for slope movement to occur during the winter months and well into the spring months. This is, of course, the time of year when ground water recharge rates are at the highest. This table also includes non-fire related landslides that have the possibility of moving across Highway 50. In some cases (for example Landslide # 8, # 9, # 10, # 15 and #16) landslides have dammed or have the probability of damming the South Fork American River temporarily. This shows that slope movement can and does occur, even without fires, indicating that the rate of ground water recharge is the driving process in slope movement.

The influence of proposed salvage logging operations to the overall slope stability within the project area is directly related to the link between surface and ground waters (i.e., ground water recharge). If surface water is collected and then routed to potential or existing unstable slopes where it recharges the ground water, there is the possibility of reactivating some of the landslides and/or initiating slope movement by raising the ground water levels. The collecting and routing of surface water may occur along skid and tractor trails as well as along truck roads.

Native surfaced (dirt) roads have the potential to channel runoff and increase sedimentation to streams. Sediment delivered to streams impairs water quality and has the potential to impact downstream beneficial uses of water, including municipal water supplies. The South Fork of the American River provides drinking water for customers of the EI Dorado Irrigation District (EID).

3. **There is a need to act rapidly to remove some of the dead trees while they retain economic value that can offset the cost of other restoration work:** Dead trees deteriorate rapidly relative to wood quality, volume, and value. By the first year following the fire, most trees have significant worm holes and weather checking, deteriorating about one third of the cubic volume on trees between 11 and 24 inches diameter (Bodenhausen 2002). By the second year, 47 to 74 percent of the volume of trees less than 24 inches diameter is lost (Lowell et al. 1992). Larger trees deteriorate more slowly, but even trees as large as 40 inches diameter will lose nearly half their volume to decay by the second year (Lowell et al. 1992). This volume loss corresponds to significant value loss. The first year after the fire, the value of trees removed will cover the cost of their removal and associated fuel treatments and can be used to pay for restoration work. Restoration work that can be funded by the timber value includes road repair and road surfacing to reduce erosion, road closures, treatment of additional fuels, reforestation, and watershed improvement projects. Much of the fire area is very steep, requiring expensive helicopter or cable equipment to remove undesirable levels of dead trees. By the second or third year after a fire, the

value and volume loss may preclude any economic return, thereby jeopardizing the availability of funds for restoration and meeting the other purposes of the project.

4. **There is a need to reduce safety hazards to the public and forest workers from falling trees: Dead and defective trees pose a significant safety hazard to forest visitors and workers.** Areas within or adjacent to the fire area where falling snags must be removed include: along roads that are used by the public or by forest workers, along the Pony Express Trail, around the Sugarloaf trail system, around the Phantom Spires, around recreation residences, and in dispersed camping sites. Additionally, snags must be removed adjacent to the communities of Silver Fork and Kyburz, around their water treatment systems, and adjacent to the Silver Fork School.

DECISION AND RATIONALE FOR DECISION

Decision

Based upon my review of the alternatives, I have decided to implement Alternative 1 as described in the Final Environmental Impact Statement (FEIS).

My decision is based upon a careful consideration of the information and analysis contained in the FEIS and all of the supporting documentation, including the public comments on the Draft Environmental Impact Statement (DEIS). This environmental analysis process was conducted in accordance with the National Environmental Policy Act (NEPA) and the direction provided in the Forest Service Manual. Alternative 1 is consistent with the goals and objectives of the Eldorado National

Forest Land and Resource Management Plan (LRMP) as amended by the SNFP.

Rationale for Decision

When compared to the other alternatives, Alternative 1 meets the purpose for the project and is the alternative that best meets the needs identified for this project. I considered each of the needs as a factor in my decision and provide the rationale for my evaluation of each alternative against those needs.

1. **There is a need to reduce long-term fuel loading for the purpose of reducing future fire severity and resistance to control.**

Given the estimated fire return interval for the Freds Fire area of 4 to 18 years (FEIS pg. 64) and the estimated length of time to achieve old forest conditions (100 to 250 years), it is inevitable that fires will burn within the project area before the old forest structure and function can return. Actions taken now can influence the extent and intensity of future fires by determining the amount and configuration of fuel load in the Freds Fire area. Comparing the total fuel loading, measured in tons of down woody fuel over time, is one way to evaluate the alternatives (FEIS pg. 51 comparison of alternatives chart, Fire and Fuels section pgs. 63 to 93). Alternative 1 best meets this need by retaining the least total fuel loading over most of the project area. This will help reduce the intensity of future fires and will reduce the "resistance to control" when fires do occur (FEIS pgs. 73 to 77). Direct attack of small fires within the 165 acres of snag retention clumps may be precluded due to fire fighter safety. The areas outside of snag clumps would have a low resistance to control, would be safe for firefighters to construct fire lines along the fire's edge,

would contribute to more effective fire suppression and contain fires to a smaller size.

Alternative 2 results in high fuel loadings over time, particularly in the 1000-hour fuels (>3" diameter). There is abundant scientific evidence that increased fuel loads can result in increased fire intensity and severity. The severity of fire effects and difficulty in fire suppression are primarily associated with the total amount of fuel available and consumed (Martin and Brackebusch 1974). In other words, given the same weather and topographic conditions, areas with higher fuel loads will release more energy (burn hotter), exhibit longer flame lengths, have greater potential to convert to crown fires, be more difficult to contain, pose greater risks to firefighters, kill more vegetation, and damage soils more severely than areas with lower fuel loads. Fuel loading contributes to high resistance to control. High snag and log levels impede fire line construction, increase safety hazards, increase spotting potential, and increase fire severity. Containment lines must be constructed far from the fireline where it is safe and practical to do so, ultimately increasing fire size. Increased soil heating from burning logs kills soil microorganisms and reduces soil productivity.

Alternative 3 increases fuel loading substantially in areas where there are many fire damaged and dying trees. As these trees die over time, they will be retained as snags in areas that are not economical to reenter (approximately 72 percent of the area), such as steep ground. These higher snag and log levels would have similar effects as described under Alternative 2.

Alternative 4 is similar to Alternative 1 except additional snags would be left that do not currently meet

the marking guidelines because it would be to expensive to enter a second time based on the helicopter logging costs.

Alternative 5 reduces long-term fuel loading; however, in snag retention clumps (475 acres) and areas where four snags per acre are left it would be unsafe for effective firefighting, fuel levels by year 25 would be high enough to seriously impede fire suppression and contribute to severe soil heating. Portions of the defense zone and the ridgetop fuel breaks would be the only locations available for safe control line construction. Direct attack on small fires in snag retention clumps, portions of the threat zone, and general forest may be precluded due to fire fighter safety. Fires would therefore become larger and more intense as indirect methods are employed.

2. There is a need to improve road drainage and establish effective ground. cover in severely burned areas for the purpose of reducing erosion and sedimentation to streams in the short term and for contributing to long term soil production.

The fire has resulted in a significant increase in sediment delivery to some streams. This will continue for the next several years under all alternatives, which in turn may affect downstream beneficial uses of water. Alternatives 1, 3, and 5 may add slightly to the risk of impacts to downstream beneficial uses of water; alternative 4 would result in a negligible increase in such a risk. Alternatives 1, 3, 4, and 5 will improve the existing road system, reducing chronic sources of sedimentation. Snag retention within riparian conservation areas will provide recruitment of in-stream large woody debris. Alternative 2 provides high levels of snags that

will contribute to in-stream woody habitat for aquatic species. Hydrologically sensitive areas and steep slopes will be protected through equipment exclusion zones and a number of other protection measures.

Many areas of the Freds Fire currently lack enough effective ground cover resulting in substantially increased erosion rates. The extent that each alternative provides for short-term effective ground cover was used as a measure of meeting this need. Alternative 2 does not meet this need as the amount of effective ground cover provided from natural needle and limb fall is unlikely to be sufficient to reduce erosion rates in the short term. Alternative 2 perpetuates the existing degraded condition resulting from the fire. Sediment loads to streams are expected to remain high and turbidity levels elevated following storm events.

Alternatives 1, 3, 4, and 5 are similar in meeting this need as mechanical treatment of dead trees will provide limbs from tree tops for ground cover. Alternative 1 best meets this need by treating both small and larger sized dead trees over the largest area.

Over the mid to long term, Alternative 1 will provide for greater watershed protection than other alternatives because Alternative 1 reduces the risk of severe impacts to soils and beneficial uses of water from another wildfire. Alternative 1 reduces fuel loading and improves resistance to control, thereby increasing the potential to suppress fires during initial attack when they are small, with less impact to soil cover; and less potential for destruction of soil organisms and organic matter from lethal temperatures (FEIS pgs. 73 to 77, 113 to 120, 127 to 153).

3. There is a need to act rapidly to remove some of the dead trees while they retain economic value that can offset the cost of other restoration work.

This element highlights the need to make a decision about removing dead trees within the Freds Fire in a timely manner. This factor also highlights the relationship between the economic value of the dead trees and meeting the other ecological and social needs for action. The economic value, in terms of wood quality, decreases rapidly in dead trees with the potential for substantial loss within 3 years (FEIS pg. 157). Trees that were immediately killed by the fire will have 10 months worth of decay by the time this project is implemented and some of the smaller diameter dead trees may have already lost all economic value. By the second year following the fire, about 65% of the wood volume will be lost to decay (FEIS pg. 157; Emergency Situation Analysis for the Freds Fire Restoration Project). Deterioration of the fire-killed and damaged trees has a number of impacts. Lumber quality is reduced, merchantable volume of wood is reduced, and most importantly, value is reduced. This reduction in value impacts the revenue the Federal Government receives from stumpage and it also impacts the ability to cost-effectively remove the dead trees at all. Ultimately, after trees have significantly deteriorated, the cost of removal far exceeds the value of the trees, and the Government is faced with the dilemma of an increasing fuel load and no immediate funds available to mitigate the impact. In California, there are numerous examples of recent fires where delay caused no-bid timber sales and the timber was not harvested because of deterioration rendering the trees worthless in the marketplace and unsafe to harvest. On the Gap Fire of

2001 on the Tahoe National Forest, one year after the fire the value of the trees dropped below the cost of removing them with helicopters. The consequence was an estimated $400,000 loss of timber value that impacted the ability to treat fuels (refer to the Emergency Situation Analysis prepared for the Freds Fire Restoration Project). On the Star Fire on the Tahoe National Forest, delay caused an estimated $2,600,000 loss in timber value. This amount of money could have paid to hand pile at least 4,300 acres of fuel on steep terrain (refer to, the Emergency Situation Analysis prepared for the Freds Fire Restoration Project).

Delay will diminish the opportunities to utilize dead trees to benefit human needs, lessen the ability to leverage the timber value to treat fuels, repair and improve roads, and fund other restoration treatments, and reduce our ability to meet the long term goals and achieve the purpose and need for the project. For these reasons, I requested, and the Chief, Forest Service approved, an emergency situation as provided by 36 CFR 215.10.

Alternative 1 generates the greatest revenue, $3,345,872 (estimated gross revenue), which is sufficient to cover the costs of road improvements, fuel treatments, and future reforestation if any. Alternative 2 does not meet this need because no revenue would be generated and road costs and potential future reforestation costs would be entirely dependent upon appropriated or other funding sources. Alternative 3 generates an estimated $2,676,564; Alternative 4 generates an estimated $1,586,256; and Alternative 5 generates an estimated $3,280,582. All action alternatives generate

sufficient funds to pay for fuel treatments and road improvements except Alternative 4.

4. There is a need to reduce safety hazards to the public and forest workers from falling trees.

All action alternatives reduce the risk of falling snags to some extent, but no alternative completely eliminates the risk. Alternative 1 best reduces the risk by prescribing the most acres with lower snag levels. By clumping snags into 3 large patches, there will be the potential to create areas with fewer snag risks. Alternative 2 has the highest risk to public and forest worker safety since all dead trees will remain. Some level of risk reduction has already occurred along roads within the fire area. Under Alternative 1, as additional hazards are identified, they will require a separate decision to remove or retain them. Alternative 2 best meets this need by retaining lower numbers of snags across more acres in the project area. In the short-term, the risk to the public entering the Freds Fire area is great as smaller trees will tend to be susceptible to falling soon and the tops of larger trees will begin to fall, especially in the winter. There are additional risks due to timber harvest activities that are occurring along the roadside on private land.

I also considered the public comments and the significant issues in making my decision. Alternative 1 is responsive to the public comments and addresses most of the significant issues (FEIS Chapter 1, pgs. 22 to 24). These issues are as follows:

Whether use of the Pacific Southwest Region Forest Health Protection Staff's mortality guidelines presents an unacceptable risk of cutting trees that would have survived their fire injuries. There is a tradeoff between

minimizing the risk of cutting a live tree and the need to repeatedly log the same ground to remove trees as they die. There is a high likelihood that repeat entries would be made in ground based logging units, and a lower probability in skyline and helicopter logged areas. The latter systems are more costly and dependent on higher volumes per acre for economic feasibility. Repeat entries increase the risk of soil disturbance, erosion, and compaction. Lack of repeat entries increases the number of snags retained and correspondingly increases the long term fuel accumulation. In the Star Fire, where mortality guidelines were not used, 22 percent additional cubic volume of timber was removed in the second and third reentry on tractor units. No reentry occurred on skyline and helicopter logged areas. Alternative 3 does not use mortality guidelines and consequently there is a higher risk of significantly increasing the number of snags retained and associated fuel accumulation. The other alternatives, including Alternative 1, mitigates the risk of cutting trees that would otherwise survive by utilizing the latest and most comprehensive scientific assessment of tree mortality following wildfire in California (Hood et al. 2005). The latest science assessing fire related mortality provides models that allow managers to select the desired level of predicted mortality based on land management objectives. Tree marking guidelines are derived from the probabilities, as described in the FEIS on page 61 and in Appendix A. For Alternatives 1, 4, and 5, I selected a more conservative probability of mortality for areas where ground based logging was proposed, and a slightly less conservative probability of mortality where aerial logging systems were proposed as displayed in the table below.

Table 1. Probability of Tree Mortality as applied to Alternatives 1, 4, and 5.

	PP/JP/SP	White Fir	Incense Cedar	Red Fir	Douglas Fir
Tractor Logging System					
Correctly Predicted Mortality (%)	96	95	100	100	—
Correctly Predicted Survival (%)	51	63	88	—	—
Helicopter and Skyline Logging System					
Correctly Predicted Mortality (%)	90	87	85	100	—
Correctly Predicted Survival (%)	65	74	89	—	—

Marking guidelines for Douglas fir are based on Ryan and Reinhardt (1988).

As displayed in the table, the guidelines for tractor logged areas reduce the chance of trees being cut which might otherwise have survived, while accepting a relatively high probability of many additional trees which do not meet the guidelines subsequently dying. Marking guidelines for helicopter and skyline logging result in a slightly higher potential of trees being cut which might otherwise have survived, and a lower

probability of additional trees, which do not meet the guidelines, subsequently dying.

The rationale for a more conservative mortality marking guide in tractor logged areas stems from experience in previous fire salvage sales as described above. Since tractor logged areas are typically re-logged when significant numbers of additional trees die, fuel loading from additional dead trees can be mitigated. In order to mitigate the fuel accumulation from delayed mortality on steep slopes, more of the dying trees need to be removed initially because high yarding costs, setup time, and limited equipment availability make it unlikely that helicopter or skyline units would be re-logged to capture mortality occurring after the initial logging.

Whether ground based and "cable" logging would result in unacceptable impacts on soil and downstream beneficial uses of water. Alternative 1 will improve the existing road system, reducing chronic sources of sedimentation. Snag retention will provide recruitment of in-stream large woody debris. Hydrologically sensitive areas and steep slopes will be protected through use of aerial logging methods, equipment exclusion zones, application of Best Management Practices and a number of other protection measures described in the FEIS on page 32, which I believe will be effective based on monitoring on other projects and my background and experience as a hydrologist. While Alternative 4 was designed to address this issue, and would minimize ground disturbance, it is very expensive to implement and I do not believe the perceived benefits justify the high cost.

Whether snag retention levels proposed are seriously deficient to maintain viability and diversity for the array of snag dependent and snag associated species in the project area. Alternative 2 retains all snags, thereby maximizing habitat for cavity nesting species, but fails to meet the needs identified for the project as articulated above and in the FEIS. Cavity nesting birds are management indicator species for the Eldorado National Forest, but are not threatened, endangered, or sensitive. There are many cavity nesting bird species that find habitat in the Freds Fire, and under the Eldorado National Forest Land Management Plan I am charged with providing medium capability habitat for a suite of species.

Alternative 1 provides snags for cavity nesting birds potentially using the fire area, but arranges them in patches as well as distributed in Riparian Conservation Areas (RCAs). The patches are located in areas of large trees (Wildlife Habitat Relationships (WHR) size class 4 and 5), but contain both large and small trees. Alternative 1 provides for species that are associated with burned forest habitat, such as hairy and black-backed Woodpeckers, as well as species that are snag habitat generalists and species associated with forest environments.

Alternative 5 enhances the snag habitat of Alternative 1 by retaining additional large clumps of snags and retains snags in the largest size class within RCAs. Alternative 5 provides more habitat than the other action alternatives for the short-term needs (5 years) of the species that are associated with the burned forest habitat. Although this Alternative 5 provides the most habitat for the short term, it is the least responsive to

the purpose and need to reduce long-term fuel loading, reduce safety hazards to forest workers, and increase ground cover in the short term in high intensity burn areas.

PUBLIC INVOLVEMENT

The Notice of Intent to prepare an Environmental Impact Statement was published in the Federal Register December 27, 2004. A brief description of the location and type of project was included in the Eldorado National Forest Schedule of Proposed Actions (SOPA) in January 2005. Approximately 92 letters were mailed out to adjacent property owners; potentially affected businesses; federal, state, and local agencies; and special interest groups. The letter contained the detailed proposed action, map, methods for participation, and an invitation to the Freds Fire Restoration public meeting on January 13, 2005. The mailing list is included in the project record. An article was published in the Mountain Democrat on January 19, 2005 describing the proposed action and public meeting. Approximately 36 people attended the public meeting, including local residents and adjacent property owners. Meeting notes are included in the project record. Ten individuals responded to the scoping. Significant issues were raised and alternatives to the proposed action were developed. Appendix B of the FEIS contains the scoping comments received and a summary of how the comments were addressed is in the project file.

After reviewing the public scoping comments, I approved the following significant issues to generate alternatives:

- **Whether use of the Pacific Southwest Region Forest Health Protection Staff's mortality guidelines (Appendix A) presents an unacceptable risk of cutting trees that would have survived their fire injuries:** During scoping, concerns were expressed about the use of these guidelines and the effects on live trees. While we believe these guidelines to be the best available science applicable to the project area and they were developed based on scientific literature on this subject, extensive post-fire monitoring in the Sierra Nevada, and professional judgment, predictions of mortality are not an exact science. The probabilities are high that trees meeting the mortality guidelines are dead or dying, however there is a small probability that trees meeting the guidelines would survive, or that trees not meeting the guidelines would die. The concern by some respondents is that the guidelines are not accurate enough, and any risk of cutting a tree that would otherwise survive, is too much. These respondents point out that retention of all live trees, particularly large trees, is important for seed sources, shading, and wildlife habitat, and requested an alternative that does not utilize mortality guidelines.

- **Whether ground based and "cable" logging would result in unacceptable impacts on soil and downstream beneficial uses of water:** In some scoping comments, disagreement related to effects of the Proposed Action on soil compaction, erosion, and sedimentation were expressed. Several studies were cited supporting these concerns. In particular, some respondents were concerned that

ground based and "cable" logging in moderate to high severity burn areas would exacerbate erosion and sedimentation. Technically speaking, cable logging refers to dragging logs up or down hill with the use of cables suspended from a tower sitting on a road, and may not necessarily involve full or partial suspension of the logs above the ground. The proposed action utilizes "skyline" logging techniques which require full or partial suspension of the logs as they are brought up the hill. For purposes of this issue however, we assumed that "cable" logging and "skyline" logging were synonymous. These respondents requested an alternative that does not utilize ground based or cable logging techniques.

- **Whether snag retention levels proposed are seriously deficient to maintain viability and diversity for the array of snag-dependent and snag-associated species in the project area:** There was also concern that the proposed action does not adequately address the ten percent retention standard to leave burned areas with large trees standing for the benefit of wildlife species dependent on pulses of large, and significant numbers of snags, such as the black backed and Hairy woodpeckers. This issue was addressed by developing an alternative that leaves large clumps of snags within the high mortality portions of the project area (see FEIS pg. 11, Map 1-2).

The Notice of Availability of the Draft Environmental Impact Statement (DEIS) was published in the Federal Register on March 25, 2005 and copies of the DEIS/project summary were mailed to 37 individuals,

organizations, tribes, and government agencies. The comment period ended on May 9, 2005. Eleven individuals responded during the comment period. Appendix C of the FEIS contains the comment letters and Appendix D contains the response to comments. An open house was held on April 7, 2005 to discuss the DEIS. In addition, a field trip was held on April 25, 2005 to visit the project area and answer questions.

The 45-day comment period started on March 25, 2005 and ended on May 9, 2005. Comments were assessed and considered and the following actions were taken: alternatives were modified; an additional alternative was developed, considered, and eliminated from detailed study; factual corrections were made; and the environmental consequences were supplemented.

ALTERNATIVES CONSIDERED

In addition to the selected alternative, I considered 4 other alternatives, which are discussed below. A more detailed comparison of these alternatives can be found in Chapter 2, pages 47 to 54 of the FEIS.

Alternative 1 is the Proposed Action and Preferred Alternative. Under this alternative all dead and dying trees in the areas within the distance limitations prescribed for perennial streams, oak stands, and large contiguous low intensity burn areas would be retained. All existing down logs and cull logs greater than or equal to 20 inches small end diameter and over 10 feet long generated from logging would be retained, and standing snags would be retained in variable numbers and sizes in riparian conservation areas, threat zones, defense zones, and general forest. Roadside hazard trees would be removed. Logging would occur using helicopter, skyline, and ground-based machinery. Pro-

tection of RCAs, sensitive plants, cultural resources, and wildlife would occur. Treatment of fuels and manipulation of ground cover would occur. Roads would be reconstructed and maintained to improve watershed condition. Less than 1 mile of new road would be constructed to access tractor units.

Alternative 2 is the No Action alternative. Under this alternative no dead tree removal or treatment would occur. Projects associated with the fire suppression rehabilitation and Burn Area Emergency Response (BAER) would continue.

Alternative 3 responds to the concern that use of the Pacific Southwest Region Forest Health Protection Staffs mortality guidelines presents an unacceptable risk of cutting trees that would have survived their fire injuries. Alternative 3 is similar to Alternative 1 except mortality guidelines that predict which trees will die of their injuries would not be used to mark trees for harvest. Protection measures are the same as for Alternative 1.

Alternative 4 was designed to address the issue that ground based and "cable" logging would result in unacceptable impacts on soil and downstream beneficial uses of water. Alternative 4 is similar to Alternative 1 except that helicopter logging would replace skyline and ground based logging and there would be no new road building.

Alternative 5 was designed to address the issue that snag retention levels proposed are too low to maintain viability and diversity for the array of snag-dependent and snag-associated species in the project area. Alternative 5 is similar to Alternative 1 except that additional dead trees (equal to 4 snags per acre across the project

area) would be retained in large clumps over the landscape. Outside of RCAs, this alternative was designed to leave snags for wildlife in varying sized clumps instead of as individual trees spread over the landscape, avoiding ridges, roads, powerline, and private land. As first priority, clumps are located in WHR size class 5 stands where mortality exceeds 66 percent. Second priority is WHR size class 4 where mortality exceeds 66 percent. Clumps would be located to avoid areas strategic to fire suppression. Where possible, clumps would be located on steeper ground where logging costs tend to be high and where people are less likely to recreate. Snag retention in perennial and seasonal RCAs is the same as for Alternative 1.

Alternatives Considered But Eliminated From Detailed Study

Federal agencies are required by NEPA to rigorously explore and objectively evaluate all reasonable alternatives and to briefly discuss the reasons for eliminating any alternatives that were not developed in detail (40 CFR 1502.14). Public comments received in response to the Proposed Action provided suggestions for alternative methods for achieving the purpose and need.

An alternative that defers action until 15 years post fire was proposed by some members of the public. Under such an alternative the surface fuels would be piled and burned and felling of small snags for ground cover could occur. This alternative was eliminated from detailed study because it does not accomplish the purpose and need for the project. Specifically, this alternative does not generate any revenue that could be used to offset the costs of the fuel treatment or any

other restoration activity. This alternative would retain nearly all dead material on site, increasing safety hazards and fuel loads over time to unacceptable levels. By 15 years post fire, dead trees would be significantly deteriorated to a point that it would be extremely hazardous to perform any of the treatments this alternative would require (FEIS pgs. 42 to 43). Even if the work could be done safely, piling and burning of surface fuels is expensive on large areas of steep slopes, exceeding four million dollars as displayed on page 43 of the FEIS. Additionally, this alternative would not generate any effective ground cover in the short term in high intensity burn areas.

An alternative that retains all dead trees greater than 15 inches in diameter was proposed. This alternative would fell and lop smaller trees for ground cover, and treat small sized fuels through piling and burning. This alternative would preclude skyline logging due to the prevalence of trees greater than 15 inches that would interfere with skyline corridors. It is assumed that all areas proposed for skyline logging would be helicopter logged instead. This alternative responds to the issue of whether there is a need to remove large dead trees (over 15") to reduce future fire severity and intensity. Some respondents assert that "by the time most of the large snags have fallen and substantially decayed, the small snags, and branches and tops from large snags, will have long since fallen and decayed into soil." These respondents requested an alternative that retains all dead trees over 15" diameter. Based on fuels modeling displayed in the FEIS on page 45, and the effects on fire behavior and resistance to control, this alternative fails to meet the purpose and need for the project. This alternative fails to reduce future fire

intensity and would lead to significant tree mortality in the event of a fire, hindering or reversing the growth of future forest. In addition, numerous snags would continue to inhibit or preclude safe firefighting practices within the project area; the alternative is not practical or capable of being implemented because there is little economic value in trees less than 15 inches to generate sufficient, funds for fuel treatment and other restoration treatments; and future fires would likely have significant and long lasting damage to soil productivity.

An alternative was proposed by two environmental groups in response to the DEIS. The alternative would retain 640 acres of California Wildlife Habitat Relationships (CWHR) class 4 and 5 habitat (within high mortality areas) and 402 acres of CWHR class 3 habitat (within high mortality areas) in snag retention clumps larger than 30 acres across the fire. This alternative would include removal of dead trees with no green limbs, retention of four of the largest snags outside of the snag retention clumps, and removal of snags less than 6 inches dbh within the 1,042 acres of snag retention clumps to reduce fuel build up. The purpose of this alternative was to increase the habitat available for black backed woodpeckers (as well as other woodpeckers) and provide additional snags for legacy structure for future forest. This alternative was eliminated from detailed study because it does not accomplish the purpose and need for the project. Specifically, this alternative does not meet the purpose and need to reduce longterm fuel loading, reduce safety hazards to forest workers, and increase ground cover in the short term in high intensity burn areas.

Environmentally Preferable Alternative

The NEPA implementing regulations (Section 1505.2) require that the alternative(s) that best promotes the national environmental policy as expressed in NEPA, Section 101, be identified in the Record of Decision as the "environmentally preferable Alternative" or alternatives. This is ordinarily "the alternative that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources" (FSH 1909.15, 05). For the Freds Fire Restoration project, I believe Alternative 1 is the environmentally preferred alternative for reasons discussed above.

For this project, all of the action alternatives provide protection to the environment by their design, management requirements, and built-in mitigations. All action alternatives comply with NEPA's purpose and spirit.

Findings Required by Other Laws and Regulations

All management practices and activities of Alternative 1 are consistent with the 'management direction of the Eldorado National Forest Land and Resource Management Plan (LRMP) as amended.

Clean Air Act

The Clean Air Act makes it the primary responsibility of States and local governments to prevent air pollution and control air pollution at its source. States must have a plan that provides for implementation, maintenance, and enforcement of the primary ambient air quality standard. The State of California has a plan. The procedures outlined in the FEIS are sufficient to

minimize air quality concerns. This project meets the Clean Air Act.

Clean Water Act

Federal agencies are required by the Clean Water Act to cooperate with State agencies in preventing, reducing, and eliminating pollution in concert with programs for managing water resources. This project meets this through the incorporation of Best Management practices listed in the project file. This project meets the Clean Water Act.

National Environmental Policy Act (NEPA)

The NEPA requires that Federal agencies complete detailed statements on proposed actions that significantly affect the quality of the human environment. The Act's requirement to prepare an environment impact statement is designed to provide decision makers with a detailed accounting of the likely environmental effects of a proposed action prior to adoption and to inform the public of, and allow it to comment on, such effects. The FEIS does a comprehensive job of analyzing the alternatives and displaying the alternatives and displaying the environmental effects. The procedural requirements of the NEPA have been followed.

National Forest Management Act (NFMA)

Projects occurring on NFS lands must meet minimum specific management requirements under 36 CFR 219.27. This project and the FEIS address each as follows:

- The management prescriptions discussed in the FEIS meet all of the resource protection requirements of the CFR.

- The requirement for vegetative manipulation is not applicable to this project because this involves salvage of fire killed trees and does not involve the manipulation of tree cover.

- The project was reviewed by a certified silviculturist and found to be in compliance with all aspects of the silvicultural practices requirement.

- The uneven requirement does not apply.

- This project is consistent with the requirements for riparian areas.

- This project meets the requirements for soil and water.

- Biological Evaluations considered effects to for Forest Service sensitive species. The Biological Evaluations determined that the project was not likely to result in a loss of viability for any sensitive species.

Endangered Species Act (ESA)

Section 7(a)(2) of the Endangered Species Act requires that Federal agencies consult with the United States Fish and Wildlife Service and National Marine ' Fisheries Service, as appropriate, to ensure that their actions do not jeopardize the continued existence of species listed as threatened or endangered under ESA, or destroy or adversely modify their critical habitat.

A biological assessment was prepared for federally proposed, threatened or endangered wildlife and botany species and their critical habitat. Implementation of the

project would have no effect on American bald eagle, great gray owl, valley elderberry longhorn beetle, western red bat, willow flycatcher, California redlegged frog, foothill yellow-legged frog, mountain yellow-legged frog, California wolverine, Arctostaphylos nissenana, Botrychium spp., Draba asterophora var. asterophora, Draba asterophora var. macrocarpa, Epilobium howellii, Eriogonum tripodium, Horkelia parryi, Lewisia longipetala, Lewisia serrata, Lomatium stebbinsii, Meesia spp., Navarretia prolifera ssp. Lutea, Phacelia stebbinsii, and Senecio layneae. Implementation of the project may effect individuals or habitat, but is not likely to result in a trend toward Federal listing or loss of viability for the following species: California spotted owl, Pacific fisher, pallid bat, northern goshawk, Townsend's big-eared bat, American peregrine Falcon, American marten, northwestern pond turtle, Sierra Nevada red fox, Calochortus clavatus var. avius and Cypripedium montanum.

National Historic Preservation Act

It was determined under the Programmatic Agreement for Compliance with Section 106 of the National Historic Preservation Act for Undertakings on the National Forests of the Pacific Southwest Region, that the proposed undertakings will have no direct, indirect or cumulative effect on cultural properties and values.

Implementation Date

The Chief of the Forest Service has determined that an emergency situation exists for the entire project area as provided for in 36 CFR 215.10.

Implementation may begin immediately for that portion of the decision determined to be an emergency.

ADMINISTRATIVE REVIEW or APPEAL OPPORTUNITIES

This decision is subject to administrative review (appeal) pursuant to 36 CFR Part 215. The appeal must be filed (regular mail, fax, email, hand-delivery, or express delivery) with the Appeal Deciding Officer at: Bernard Weingardt, Regional Forester, USDA Forest Service, Regional Office R5, 1323 Club Drive Vallejo, CA 94592, fax: (707) 562-9229.

The office business hours for those submitting hand-delivered appeals are: 8:00 am to 4:30 pm Monday through Friday, excluding holidays. Electronic comments must be submitted in a format such as an email message, plain text (.txt), rich text format (.rtf), or Word (.doc) to appeals-pacificsouthwest-regional-office. In cases where no identifiable name is attached to an electronic message, a verification of identity will be required. A scanned signature is one way to provide verification.

Appeals, including attachments, must be filed within 45 days from the publication date of this notice in the Mountain Democrat, the newspaper of record. Attachments received after the 45-day appeal period will not be considered. The publication date in the Mountain Democrat, newspaper of record, is the exclusive means for calculating the time to file an appeal. Those wishing to appeal this decision should not rely upon dates or timeframe information provided by any other source. Individuals or organizations that submitted substantive comments during the comment period specified at 215.6 may appeal this decision. The notice of appeal must meet the appeal content requirements at 36 CFR 215.14.

Contact Person

For additional information concerning this decision or the Forest Service appeal process, contact Laura Hierholzer, Interdisciplinary Team Leader, Placerville Ranger District, 4260 Eight Mile Road, Camino, CA 95709, (530) 647-5382.

08/01/2005
Date
Record of Decision

/s/ JOHN D. BERRY
JOHN D. BERRY
Forest Supervisor

APPENDIX G

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

No. 05-16776
D.C. No. CV-05-01608-MCE

EARTH ISLAND INSTITUTE, A CALIFORNIA PROFIT ORGANIZATION; CENTER FOR BIOLOGICAL DIVERSITY, A NON-PROFIT ORGANIZATION,
PLAINTIFFS-APPELLANTS

v.

UNITED STATES FOREST SERVICE; DALE BOSWORTH, CHIEF OF THE UNITED STATES FOREST SERVICE; JOHN BERRY, FOREST SUPERVISOR FOR EL DOREDO NATIONAL FOREST,
DEFENDANTS-APPELLEES

SIERRA PACIFIC INDUSTRIES,
DEFENDANT-INTERVENOR-APPELLEE

[Filed: Jul. 12, 2006]

ORDER

Before: NOONAN, TASHIMA, and W. FLETCHER, Circuit Judges.

The panel has voted to deny the petition for rehearing. Judge Fletcher has voted to deny the petition for rehearing en banc; and Judges Noonan and Tashima so recommend.

The full court has been advised of the petition for rehearing en banc and no judge of the court has requested a vote on whether to rehear the matter en banc. Fed. R. App. P. 35.

The petition for rehearing and the petition for rehearing en banc, filed June 7, 2006, are **DENIED**.